GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 3, 2004, 11:59:10 ; Search time 39 Seconds
(without alignments)
695.758 Million cell updates/sec

Title: US-09-852-261-4_COPY_26_111
Perfect score: 86
Sequence: 1 NKPTVYGSSIRRAPQTGIVD.....THKKRKLQRRRKGSTLEEHK 86

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 1017041 seqs, 315518202 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : SPTREMBL_25:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	31	36.0	69	6	O02807	O02807 bubalus bub
2	31	36.0	127	11	P97899	P97899 rattus sp.
3	31	36.0	153	11	Q8C4U6	Q8c4u6 mus musculu
4	31	36.0	165	11	Q8CAR0	Q8car0 mus musculu
5	26	30.2	57	6	Q28236	Q28236 cervus elap
6	26	30.2	66	6	Q9N1S6	Q9n1s6 capreolus c
7	26	30.2	130	4	Q9NP10	Q9np10 homo sapien
8	26	30.2	133	6	Q9N1C1	Q9n1c1 bos taurus
9	26	30.2	137	4	Q14620	Q14620 homo sapien
10	26	30.2	139	4	Q13429	Q13429 homo sapien
11	26	30.2	139	6	P79167	P79167 equus cabal
12	11	12.8	153	13	O93380	O93380 meleagris g
13	9	10.5	53	13	Q90YK0	Q90yk0 gallus gall
14	9	10.5	62	6	Q9XS88	Q9xs88 equus cabal
15	9	10.5	92	13	Q8UWF9	Q8uwf9 salmo salar
16	9	10.5	104	6	Q862E7	Q862e7 bos taurus
17	9	10.5	104	13	Q7T107	Q7t107 dicentrarch
18	9	10.5	106	6	Q9MYZ6	Q9myz6 trichosurus
19	9	10.5	108	13	Q800N0	Q800n0 morone chry
20	9	10.5	108	13	Q800M9	Q800m9 morone saxa
21	9	10.5	108	13	Q800M8	Q800m8 morone chry
22	9	10.5	108	13	Q800M7	Q800m7 morone amer
23	9	10.5	113	6	Q9N1S5	Q9n1s5 capreolus c
24	9	10.5	116	13	Q91161	Q91161 oncorhynchu
25	9	10.5	117	13	Q91476	Q91476 salmo salar
26	9	10.5	123	6	Q8MJI5	Q8mji5 sus scrofa
27	9	10.5	129	13	Q9PU30	Q9pu30 oreochromis
28	9	10.5	135	13	Q9PTB0	Q9ptb0 gallus gall
29	9	10.5	141	6	Q862G1	Q862g1 bos taurus
30	9	10.5	145	13	Q91475	Q91475 salmo salar
31	9	10.5	149	6	Q9MYX4	Q9myx4 bos indicus
32	9	10.5	149	13	Q91231	Q91231 oncorhynchu
33	9	10.5	154	11	Q63265	Q63265 rattus norv
34	9	10.5	155	13	Q91162	Q91162 oncorhynchu
35	9	10.5	159	13	O93607	O93607 paralichthy
36	9	10.5	161	13	Q91230	Q91230 oncorhynchu
37	9	10.5	167	13	Q9DET4	Q9det4 myoxocephal
38	9	10.5	177	13	Q7ZZT6	Q7zzt6 gallus gall
39	9	10.5	185	13	O57436	O57436 paralichthy
40	9	10.5	185	13	Q9YI57	Q9yi57 acanthopagr
41	9	10.5	186	13	Q9PSX5	Q9psx5 paralichthy
42	9	10.5	186	13	O93527	O93527 paralichthy
43	9	10.5	186	13	Q800Y5	Q800y5 siganus gut
44	9	10.5	186	13	Q7T1A7	Q7t1a7 perca flave
45	9	10.5	187	13	O57687	O57687 taenopygia
46	9	10.5	187	13	P79890	P79890 gallus gall
47	9	10.5	188	13	P81268	P81268 oncorhynchu
48	9	10.5	188	13	Q91965	Q91965 oncorhynchu
49	9	10.5	210	13	Q91443	Q91443 squalus aca
50	9	10.5	215	13	O73721	O73721 tilapia sp.
51	9	10.5	215	13	O42429	O42429 lates calca
52	9	10.5	215	13	Q800Y4	Q800y4 siganus gut
53	9	10.5	215	13	Q800E6	Q800e6 paralichthy
54	8	9.3	62	13	Q9IAA0	Q9iaa0 carassius a
55	8	9.3	79	13	P81416	P81416 oncorhynchu
56	8	9.3	117	13	Q9I9I4	Q9i9i4 ctenopharyn
57	8	9.3	161	13	Q90VV9	Q90vv9 brachydanio
58	8	9.3	161	13	Q9PWK2	Q9pwk2 carassius a
59	8	9.3	161	13	Q98SR6	Q98sr6 megalobrama
60	8	9.3	161	13	Q9YI82	Q9yi82 carassius a
61	8	9.3	161	13	Q800D5	Q800d5 megalobrama
62	8	9.3	178	13	Q9IBI0	Q9ibi0 cyprinus ca
63	8	9.3	182	13	O73720	O73720 oreochromis
64	8	9.3	182	13	O42289	O42289 oreochromis
65	8	9.3	182	13	P79824	P79824 oreochromis
66	8	9.3	184	13	O42336	O42336 myoxocephal
67	8	9.3	957	5	Q93781	Q93781 caenorhabdi
68	7	8.1	82	5	Q17193	Q17193 bombyx mori
69	7	8.1	86	6	Q8SQC4	Q8sqc4 trichosurus
70	7	8.1	108	11	Q9CUY2	Q9cuy2 mus musculu
71	7	8.1	126	13	Q9YGY5	Q9ygy5 oreochromis
72	7	8.1	152	12	O55760	O55760 chilo iride
73	7	8.1	197	13	Q9PUD0	Q9pud0 brachydanio
74	7	8.1	197	13	Q8UUI9	Q8uui9 brachydanio
75	7	8.1	226	16	Q9RSH7	Q9rsh7 deinococcus
76	7	8.1	289	11	Q8CHK5	Q8chk5 mus musculu
77	7	8.1	303	16	Q7WNL7	Q7wnl7 bordetella
78	7	8.1	306	16	Q83NN4	Q83nn4 tropheryma
79	7	8.1	316	16	Q83MV4	Q83mv4 tropheryma
80	7	8.1	362	5	Q8T2Y7	Q8t2y7 trypanosoma
81	7	8.1	364	4	Q9NSQ6	Q9nsq6 homo sapien
82	7	8.1	429	17	Q980V3	Q980v3 sulfolobus
83	7	8.1	453	11	Q8C8I3	Q8c8i3 mus musculu
84	7	8.1	471	5	Q9VBR3	Q9vbr3 drosophila
85	7	8.1	471	16	Q88HD3	Q88hd3 pseudomonas
86	7	8.1	474	11	Q8K178	Q8k178 mus musculu
87	7	8.1	483	4	Q9H2S9	Q9h2s9 homo sapien
88	7	8.1	507	16	Q925Y7	Q925y7 rhizobium m
89	7	8.1	513	11	Q9D454	Q9d454 mus musculu

90	7	8.1	533	11	Q9Z2Z2	Q9z2z2 mus musculu
91	7	8.1	545	4	Q96JP3	Q96jp3 homo sapien
92	7	8.1	546	16	Q7VSI8	Q7vsi8 bordetella
93	7	8.1	547	9	Q856D7	Q856d7 mycobacteri
94	7	8.1	557	13	Q90999	Q90999 gallus gall
95	7	8.1	566	5	Q21740	Q21740 caenorhabdi
96	7	8.1	568	5	Q8IIS2	Q8iis2 plasmodium
97	7	8.1	622	11	Q91VN6	Q91vn6 mus musculu
98	7	8.1	686	11	Q8C208	Q8c208 mus musculu
99	7	8.1	716	11	Q8CD66	Q8cd66 mus musculu
100	7	8.1	751	3	Q86ZL0	Q86zl0 podospora a

ALIGNMENTS

RESULT 1
O02807
ID O02807 PRELIMINARY; PRT; 69 AA.
AC O02807;
DT 01-JUL-1997 (TrEMBLrel. 04, Created)
DT 01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Pro-insulin like growth factor IA (IGFIA) (Fragment).
OS Bubalus bubalis (Domestic water buffalo).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Bovinae; Bubalus.
OX NCBI_TaxID=89462;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Lung;
RA Daliri M., Appa Rao K.B.C., Kaur G., Garg S., Patil S., Totey S.M.;
RT "The expression of growth factor ligand and receptor genes in
RT preimplantation stage buffalo embryos and oviductal epithelial
RT cells.";
RL Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; Y10691; CAA71694.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR SMART; SM00078; IlGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER 1 1
FT NON_TER 69 69
SQ SEQUENCE 69 AA; 7501 MW; ACFE4DF0AF49B6C6 CRC64;

Query Match 36.0%; Score 31; DB 6; Length 69;
Best Local Similarity 100.0%; Pred. No. 5.9e-25;
Matches 31; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||||||||
Db 30 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 60

RESULT 2
P97899
ID P97899 PRELIMINARY; PRT; 127 AA.
AC P97899;
DT 01-MAY-1997 (TrEMBLrel. 03, Created)
DT 01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I.
OS Rattus sp.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10118;
RN [1]
RP PARTIAL SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat insulin-
RT like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; D00698; BAA00604.1; -.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IlGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT CHAIN 23 92 POTENTIAL.
SQ SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5CB7 CRC64;

Query Match 36.0%; Score 31; DB 11; Length 127;
Best Local Similarity 100.0%; Pred. No. 9.8e-25;
Matches 31; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||||||||
Db 53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83

RESULT 3
Q8C4U6
ID Q8C4U6 PRELIMINARY; PRT; 153 AA.
AC Q8C4U6;
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Unknown EST.
GN C730016P09RIK.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Cerebellum;
RX MEDLINE=22354683; PubMed=12466851;
RA The FANTOM Consortium,
RA the RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573(2002).
DR EMBL; AK081019; BAC38117.1; -.
DR MGD; MGI:2444166; C730016P09Rik.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IlGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 153 AA; 17093 MW; 967596AEAC0CA387 CRC64;

Query Match 36.0%; Score 31; DB 11; Length 153;

```
  Best Local Similarity   100.0%;  Pred. No. 1.1e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         79 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 4
Q8CAR0
ID   Q8CAR0      PRELIMINARY;      PRT;   165 AA.
AC   Q8CAR0;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Unknown EST.
GN   C730016P09RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Thymus;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK038119; BAC29934.1; -.
DR   MGD; MGI:2444166; C730016P09Rik.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   165 AA;  18473 MW;  2CE0D3DA981C93F8 CRC64;

  Query Match             36.0%;  Score 31;  DB 11;  Length 165;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         63 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 93


RESULT 5
Q28236
ID   Q28236      PRELIMINARY;      PRT;    57 AA.
AC   Q28236;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I (IGF-I) (Somatomedin C) (Fragment).
GN   IGF1 OR IGF-I.
OS   Cervus elaphus (Red deer).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
OC   Cervidae; Cervinae; Cervus.
OX   NCBI_TaxID=9860;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=ANTLER;
RX   MEDLINE=98233260; PubMed=9571767;
RA   Francis S.M., Suttie J.M.;
RT   "Detection of growth factors and proto-oncogene mRNA in the growing
RT   tip of red deer (Cervus elaphus) antler using reverse-transcriptase
RT   polymerase chain reaction (RT-PCR).";
RL   J. Exp. Zool. 281:36-42(1998).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: SECRETED.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U62106; AAB05252.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0008083; F:growth factor activity; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor.
FT   NON_TER       1      1
FT   CHAIN        <1     51       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       <1     10       B.
FT   DOMAIN       11     22       C.
FT   DOMAIN       23     43       A.
FT   DOMAIN       44     51       D.
FT   PROPEP       52    >57       E PEPTIDE.
FT   DISULFID     28     33       BY SIMILARITY.
FT   NON_TER      57     57
SQ   SEQUENCE   57 AA;  6462 MW;  3DE0C44FBAED5932 CRC64;

  Query Match             30.2%;  Score 26;  DB 6;  Length 57;
  Best Local Similarity   100.0%;  Pred. No. 9.6e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         17 RRAPQTGIVDECCFRSCDLRRLEMYC 42


RESULT 6
Q9N1S6
ID   Q9N1S6      PRELIMINARY;      PRT;    66 AA.
AC   Q9N1S6;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF-I.
OS   Capreolus capreolus (Roe deer).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
OC   Cervidae; Odocoileinae; Capreolus.
OX   NCBI_TaxID=9858;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=20532861; PubMed=11078967;
RA   Wagener A., Blottner S., Goritz F., Fickel J.;
RT   "Detection of growth factors in the testis of roe deer (Capreolus
RT   capreolus).";
RL   Anim. Reprod. Sci. 64:65-75(2000).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF152588; AAF73227.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
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FT   NON_TER      66     66
SQ   SEQUENCE   66 AA;  7422 MW;  4BD5ACFBADF73E51 CRC64;

  Query Match             30.2%;  Score 26;  DB 6;  Length 66;
  Best Local Similarity   100.0%;  Pred. No. 1.1e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         25 RRAPQTGIVDECCFRSCDLRRLEMYC 50


RESULT 7
Q9NP10
ID   Q9NP10      PRELIMINARY;      PRT;   130 AA.
AC   Q9NP10;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   IGF1 protein precursor.
GN   IGF1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88065102; PubMed=3683205;
RA   Rall L.B., Scott J., Bell G.I.;
RT   "Human insulin-like growth factor I and II messenger RNA: isolation of
RT   complementary DNA and analysis of expression.";
RL   Meth. Enzymol. 146:239-248(1987).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M29644; AAA52543.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL       1     25       POTENTIAL.
FT   CHAIN       26     95       POTENTIAL.
SQ   SEQUENCE   130 AA;  14406 MW;  970FBAAECFA0352D CRC64;

  Query Match             30.2%;  Score 26;  DB 4;  Length 130;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         61 RRAPQTGIVDECCFRSCDLRRLEMYC 86


RESULT 8
Q9N1C1
ID   Q9N1C1      PRELIMINARY;      PRT;   133 AA.
AC   Q9N1C1;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I.,
RA   Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT   "A primary screen of the bovine genome for quantitative trait loci
RT   affecting twinning rate.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF210387; AAF72409.1; -.
DR   EMBL; AF210385; AAF72409.1; JOINED.
DR   EMBL; AF210386; AAF72409.1; JOINED.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER      1      1
SQ   SEQUENCE   133 AA;  14674 MW;  A6991DBCB75C103B CRC64;

  Query Match             30.2%;  Score 26;  DB 6;  Length 133;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         64 RRAPQTGIVDECCFRSCDLRRLEMYC 89


RESULT 9
Q14620
ID   Q14620      PRELIMINARY;      PRT;   137 AA.
AC   Q14620;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91187000; PubMed=2082190;
RA   Tobin G., Yee D., Brunner N., Rotwein P.;
RT   "A novel human insulin-like growth factor I messenger RNA is expressed
RT   in normal and tumor cells.";
RL   Mol. Endocrinol. 4:1914-1920(1990).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M37484; AAA52789.1; -.
DR   PIR; A36552; A36552.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL       1     32       POTENTIAL.
FT   CHAIN       33    137       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   137 AA;  15177 MW;  BFCC0D11E32AB75D CRC64;

  Query Match             30.2%;  Score 26;  DB 4;  Length 137;
  Best Local Similarity   100.0%;  Pred. No. 2e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
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Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          68 RRAPQTGIVDECCFRSCDLRRLEMYC 93


RESULT 10
Q13429
ID   Q13429      PRELIMINARY;      PRT;   139 AA.
AC   Q13429;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I (Fragment).
GN   IGF-I.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=95237119; PubMed=7720641;
RA   Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT   "An alternatively spliced human insulin-like growth factor-I
RT   transcript with hepatic tissue expression that diverts away from the
RT   mitogenic IBE1 peptide.";
RL   Endocrinology 136:1939-1944(1995).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U40870; AAA96152.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   139 AA;  15611 MW;  A62271872CA29DE4 CRC64;

  Query Match             30.2%;  Score 26;  DB 4;  Length 139;
  Best Local Similarity   100.0%;  Pred. No. 2e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          65 RRAPQTGIVDECCFRSCDLRRLEMYC 90


RESULT 11
P79167
ID   P79167      PRELIMINARY;      PRT;   139 AA.
AC   P79167;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C)
DE   (Fragments).
GN   IGF1.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE OF 1-122 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97013467; PubMed=8860303;
RA   Otte K., Rozell B., Gessbo A., Engstrom W.;
RT   "Cloning and sequencing of an equine insulin-like growth factor I cDNA
RT   and its expression in fetal and adult tissues.";
RL   Gen. Comp. Endocrinol. 102:11-15(1996).
RN   [2]
RP   SEQUENCE OF 123-139 FROM N.A.
RA   Nixon A.J., Toland B.D., Sandell L.J.;
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: SECRETED.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P79167-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P51458-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U28070; AAA68952.1; -.
DR   EMBL; U85271; AAB47484.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0008083; F:growth factor activity; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Signal; Alternative splicing.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48       BY SIMILARITY.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119   >139       E PEPTIDE.
FT   NON_CONS    122    123
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   NON_TER     139    139
SQ   SEQUENCE   139 AA;  15612 MW;  CDC0E8F19C261A2C CRC64;

  Query Match             30.2%;  Score 26;  DB 6;  Length 139;
  Best Local Similarity   100.0%;  Pred. No. 2e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 12
O93380
ID   O93380      PRELIMINARY;      PRT;   153 AA.
AC   O93380;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor-I precursor.
GN   IGFI.
OS   Meleagris gallopavo (Common turkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Meleagris.
OX   NCBI_TaxID=9103;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big 6 ML Tom; TISSUE=Liver;
RA   Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
RT   "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL   Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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DR   EMBL; AF074980; AAC26006.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     48       POTENTIAL.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR-I.
SQ   SEQUENCE   153 AA;  17295 MW;  5AF1E5B8D13C70B5 CRC64;

  Query Match             12.8%;  Score 11;  DB 13;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 0.0015;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         26 SCDLRRLEMYC 36
              ||||||||||| |
Db         99 SCDLRRLEMYC 109


RESULT 13
Q90YK0
ID   Q90YK0      PRELIMINARY;      PRT;    53 AA.
AC   Q90YK0;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor II (Fragment).
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Yan B., Li N.;
RT   "Single Nucleotide Polymorphism Analysis in Chicken Insulin-like
RT   Growth Factor-II Gene and its Association with Growth and Carcass
RT   Traits.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AY043225; AAK85304.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER      53     53
SQ   SEQUENCE   53 AA;  5843 MW;  263870BF5D9467DF CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 53;
  Best Local Similarity   100.0%;  Pred. No. 0.083;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         15 ECCFRSCDL 23


RESULT 14
Q9XS88
ID   Q9XS88      PRELIMINARY;      PRT;    62 AA.
AC   Q9XS88;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor II (Fragment).
GN   IGF2.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99160468; PubMed=10051323;
RA   Caetano A.R., Pomp D., Murray J.D., Bowling A.T.;
RT   "Comparative mapping of 18 equine type I genes assigned by somatic
RT   cell hybrid analysis.";
RL   Mamm. Genome 10:271-276(1999).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF097586; AAD25989.1; -.
DR   HSSP; P01344; 1IGL.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER      62     62
SQ   SEQUENCE   62 AA;  7037 MW;  F00C3FE300B4793C CRC64;

  Query Match             10.5%;  Score 9;  DB 6;  Length 62;
  Best Local Similarity   100.0%;  Pred. No. 0.095;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         14 ECCFRSCDL 22


RESULT 15
Q8UWF9
ID   Q8UWF9      PRELIMINARY;      PRT;    92 AA.
AC   Q8UWF9;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor II (Fragment).
GN   IGF-II.
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Yadetie F., Male R.;
RT   "Effects of 4-nonylphenol on ovarian gene expression in juvenile
RT   Atlantic salmon (Salmo salar).";
RL   Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AY049955; AAL29926.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER      92     92
SQ   SEQUENCE   92 AA;  10716 MW;  4818F230A1929634 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.13;
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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db          6 ECCFRSCDL 14


RESULT 16
Q862E7
ID   Q862E7      PRELIMINARY;      PRT;   104 AA.
AC   Q862E7;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Similar to insulin-like growth factor II (Fragment).
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=22544902; PubMed=12658628;
RA   Ishiwata H., Katsuma S., Kizaki K., Patel O.V., Nakano H.,
RA   Takahashi T., Imai K., Hirasawa A., Shiojima S., Ikawa H., Suzuki Y.,
RA   Tsujimoto G., Izaike Y., Todoroki J., Hashizume K.;
RT   "Characterization of gene expression profiles in early bovine
RT   pregnancy using a custom cDNA microarray.";
RL   Mol. Reprod. Dev. 65:9-18(2003).
DR   EMBL; AB099052; BAC56542.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     104    104
SQ   SEQUENCE   104 AA;  11708 MW;  BBE8781F13EFEE3C CRC64;

  Query Match             10.5%;  Score 9;  DB 6;  Length 104;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db          3 ECCFRSCDL 11


RESULT 17
Q7T107
ID   Q7T107      PRELIMINARY;      PRT;   104 AA.
AC   Q7T107;
DT   01-OCT-2003 (TrEMBLrel. 25, Created)
DT   01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor 1 (Fragment).
GN   IGF1.
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Gisbert E., Villeneuve L.A.N., Cahu C., Zambonino-Infante J.L.;
RT   "Effect of vitamin A level during the development of sea bass
RT   (Dicentrarchus labrax) larvae.";
RL   Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AJ579342; CAE18111.1; -.
FT   NON_TER       1      1
FT   NON_TER     104    104
SQ   SEQUENCE   104 AA;  11339 MW;  5CC569A80B8F6FF2 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 104;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 18
Q9MYZ6
ID   Q9MYZ6      PRELIMINARY;      PRT;   106 AA.
AC   Q9MYZ6;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor 2 (Fragment).
OS   Trichosurus vulpecula (Brush-tailed possum).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Metatheria; Diprotodontia; Phalangeridae; Trichosurus.
OX   NCBI_TaxID=9337;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21100219; PubMed=11161776;
RA   Saunders M.C., Gemmell R.T., Curlewis J.D.;
RT   "Insulin-like growth factor 2 cDNA cloning and ontogeny of gene
RT   expression in the liver of the marsupial brushtail possum (Trichosurus
RT   vulpecula).";
RL   Gen. Comp. Endocrinol. 121:114-124(2001).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF276074; AAF76900.1; -.
DR   HSSP; P01344; 1IGL.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     106    106
SQ   SEQUENCE   106 AA;  12021 MW;  804EB2A66FCB7D6D CRC64;

  Query Match             10.5%;  Score 9;  DB 6;  Length 106;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         51 ECCFRSCDL 59


RESULT 19
Q800N0
ID   Q800N0      PRELIMINARY;      PRT;   108 AA.
AC   Q800N0;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone chrysops x Morone saxatilis (White bass x Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=45352;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
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RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402669; AAO73854.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 108;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 20
Q800M9
ID   Q800M9      PRELIMINARY;      PRT;   108 AA.
AC   Q800M9;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402670; AAO73855.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 108;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 21
Q800M8
ID   Q800M8      PRELIMINARY;      PRT;   108 AA.
AC   Q800M8;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone chrysops (White bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=46259;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402671; AAO73856.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 108;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 22
Q800M7
ID   Q800M7      PRELIMINARY;      PRT;   108 AA.
AC   Q800M7;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
OS   Morone americana (White perch).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=46260;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Fruchtman S., Hawkins M.B., Borski R.J.;
RT   "Cloning of IGF-I and the type I IGF receptor cDNAs from temperate
RT   bass species.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402672; AAO73857.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   InterPro; IPR003234; Mollusc_ins.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   ProDom; PD015667; Mollusc_ins; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
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FT   NON_TER     108    108
SQ   SEQUENCE   108 AA;  11768 MW;  7B9466A89CC569A8 CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 108;
  Best Local Similarity   100.0%;  Pred. No. 0.15;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 23
Q9N1S5
ID   Q9N1S5      PRELIMINARY;      PRT;   113 AA.
AC   Q9N1S5;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor II (Fragment).
GN   IGF-II.
OS   Capreolus capreolus (Roe deer).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidea;
OC   Cervidae; Odocoileinae; Capreolus.
OX   NCBI_TaxID=9858;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=20532861; PubMed=11078967;
RA   Wagener A., Blottner S., Goritz F., Fickel J.;
RT   "Detection of growth factors in the testis of roe deer (Capreolus
RT   capreolus).";
RL   Anim. Reprod. Sci. 64:65-75(2000).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF152589; AAF73228.1; -.
DR   HSSP; P01344; 1IGL.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
FT   NON_TER     113    113
SQ   SEQUENCE   113 AA;  12987 MW;  A8269DDF56DA593C CRC64;

  Query Match             10.5%;  Score 9;  DB 6;  Length 113;
  Best Local Similarity   100.0%;  Pred. No. 0.16;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         29 ECCFRSCDL 37


RESULT 24
Q91161
ID   Q91161      PRELIMINARY;      PRT;   116 AA.
AC   Q91161;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone regulated expression of salmon
RT   insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81911; AAB59947.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   NON_TER     116    116
SQ   SEQUENCE   116 AA;  12697 MW;  C5F378915179D89D CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 116;
  Best Local Similarity   100.0%;  Pred. No. 0.16;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


RESULT 25
Q91476
ID   Q91476      PRELIMINARY;      PRT;   117 AA.
AC   Q91476;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81904; AAA18212.1; -.
DR   HSSP; P01343; 2GF1.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   GO; GO:0007582; P:physiological processes; IEA.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
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DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19     88       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   117 AA;  12867 MW;  A97666EE2F526EAC CRC64;

  Query Match             10.5%;  Score 9;  DB 13;  Length 117;
  Best Local Similarity   100.0%;  Pred. No. 0.16;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db         92 RAQRHTDMP 100


Search completed: March  3, 2004, 12:02:38
Job time : 40 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 3, 2004, 11:55:55 ; Search time 14 Seconds
(without alignments)
319.860 Million cell updates/sec

Title: US-09-852-261-4_COPY_26_111
Perfect score: 86
Sequence: 1 NKPTVYGSSIRRAPQTGIVD.....THKKRKLQRRRKGSTLEEHK 86

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 141681 seqs, 52070155 residues

Word size : 0

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	40	46.5	181	1	IGFB_RAT	P08024 rattus norv
2	31	36.0	127	1	IGFA_MOUSE	P05017 mus musculu
3	31	36.0	133	1	IGFB_MOUSE	P05018 mus musculu
4	31	36.0	153	1	IGFA_RAT	P08025 rattus norv
5	26	30.2	81	1	IGF1_SUNMU	Q28933 suncus muri
6	26	30.2	122	1	IGF1_CANFA	P33712 canis famil
7	26	30.2	122	1	IGF1_HORSE	P51458 equus cabal
8	26	30.2	130	1	IGF1_CAVPO	P17647 cavia porce
9	26	30.2	143	1	IGF1_RABIT	Q95222 oryctolagus
10	26	30.2	153	1	IGF1_PIG	P16545 sus scrofa
11	26	30.2	153	1	IGFA_HUMAN	P01343 homo sapien
12	26	30.2	154	1	IGF1_BOVIN	P07455 bos taurus
13	26	30.2	154	1	IGF1_CAPHI	P51457 capra hircu
14	26	30.2	154	1	IGF1_SHEEP	P10763 ovis aries
15	26	30.2	195	1	IGFB_HUMAN	P05019 homo sapien
16	11	12.8	124	1	IGF1_COTJA	P51462 coturnix co
17	11	12.8	153	1	IGF1_CHICK	P18254 gallus gall
18	10	11.6	153	1	IGF1_XENLA	P16501 xenopus lae
19	9	10.5	66	1	IGF2_CHICK	P33717 gallus gall
20	9	10.5	128	1	IGF2_CAVPO	Q08279 cavia porce
21	9	10.5	129	1	IGF2_MUSVI	P41694 mustela vis
22	9	10.5	155	1	IGF2_BOVIN	P07456 bos taurus
23	9	10.5	176	1	IGF1_ONCKI	P17085 oncorhynchu
24	9	10.5	176	1	IGF1_ONCMY	Q02815 oncorhynchu
25	9	10.5	179	1	IGF2_SHEEP	P10764 ovis aries
26	9	10.5	180	1	IGF2_HUMAN	P01344 homo sapien
27	9	10.5	180	1	IGF2_MOUSE	P09535 mus musculu
28	9	10.5	180	1	IGF2_RAT	P01346 rattus norv
29	9	10.5	181	1	IGF2_HORSE	P51459 equus cabal
30	9	10.5	181	1	IGF2_PIG	P23695 sus scrofa
31	9	10.5	214	1	IGF2_ONCMY	Q02816 oncorhynchu
32	8	9.3	161	1	IGFA_CYPCA	Q90325 cyprinus ca
33	8	9.3	161	1	IGFB_CYPCA	Q90326 cyprinus ca
34	7	8.1	87	1	BXBA_BOMMO	Q17194 bombyx mori
35	7	8.1	88	1	BXB8_BOMMO	P26742 bombyx mori
36	7	8.1	89	1	BXA2_BOMMO	P15411 bombyx mori
37	7	8.1	89	1	BXA8_BOMMO	P26731 bombyx mori
38	7	8.1	89	1	BXB1_BOMMO	P26733 bombyx mori
39	7	8.1	89	1	BXB2_BOMMO	P26734 bombyx mori
40	7	8.1	90	1	BXB3_BOMMO	P26737 bombyx mori
41	7	8.1	90	1	BXB4_BOMMO	P26738 bombyx mori
42	7	8.1	90	1	BXB5_BOMMO	P26739 bombyx mori
43	7	8.1	90	1	BXB6_BOMMO	P26740 bombyx mori
44	7	8.1	90	1	BXB7_BOMMO	P26741 bombyx mori
45	7	8.1	90	1	BXB9_BOMMO	P26743 bombyx mori
46	7	8.1	91	1	BXC1_BOMMO	P15410 bombyx mori
47	7	8.1	92	1	BXA1_BOMMO	Q17192 bombyx mori
48	7	8.1	92	1	BXA3_BOMMO	P26726 bombyx mori
49	7	8.1	92	1	BXA4_BOMMO	P26727 bombyx mori
50	7	8.1	92	1	BXA5_BOMMO	P26728 bombyx mori
51	7	8.1	92	1	BXA6_BOMMO	P26729 bombyx mori
52	7	8.1	92	1	BXA7_BOMMO	P26730 bombyx mori
53	7	8.1	92	1	BXA9_BOMMO	P26732 bombyx mori
54	7	8.1	93	1	BXBB_BOMMO	Q17196 bombyx mori
55	7	8.1	95	1	BXC2_BOMMO	P26735 bombyx mori
56	7	8.1	207	1	RR4_PROWI	O47032 prototheca
57	7	8.1	439	1	ABL_FSVHY	P10447 feline sarc
58	7	8.1	622	1	ABS_HUMAN	Q9ujv9 homo sapien
59	7	8.1	1070	1	PTK7_HUMAN	Q13308 homo sapien
60	7	8.1	1130	1	ABL1_HUMAN	P00519 homo sapien
61	7	8.1	1182	1	ABL2_HUMAN	P42684 homo sapien
62	7	8.1	2283	1	DPOE_MOUSE	Q9wvf7 mus musculu
63	7	8.1	2286	1	DPOE_HUMAN	Q07864 homo sapien
64	7	8.1	3119	1	CA1C_MOUSE	Q60847 mus musculu
65	6	7.0	58	1	HSP2_MURBR	P83212 murex brand
66	6	7.0	90	1	BXBC_BOMMO	P29519 bombyx mori
67	6	7.0	102	1	SPT4_YEAST	P32914 saccharomyc
68	6	7.0	125	1	RS13_SYNP6	O24708 synechococc
69	6	7.0	126	1	RS13_ANASP	Q8ypk1 anabaena sp
70	6	7.0	126	1	RS13_SYNEL	Q8dml1 synechococc
71	6	7.0	126	1	VATG_CAEEL	P91303 caenorhabdi
72	6	7.0	142	1	PSAH_MAIZE	O65101 zea mays (m
73	6	7.0	144	1	RL15_BUCAI	P57572 buchnera ap
74	6	7.0	159	1	Y399_METKA	P58829 methanopyru
75	6	7.0	193	1	C24A_RABIT	Q95mn4 o cytochrom
76	6	7.0	206	1	RS4_NEIMA	Q9jrd0 neisseria m
77	6	7.0	206	1	RS4_PSEAE	O52759 pseudomonas
78	6	7.0	216	1	PAX6_CHICK	P47237 gallus gall
79	6	7.0	258	1	RL8_SCHPO	O13672 schizosacch
80	6	7.0	266	1	DCMA_METS1	P43387 methylophil
81	6	7.0	273	1	DAPB_YERPE	Q8zil6 yersinia pe
82	6	7.0	289	1	HEM3_ARCFU	O29026 archaeoglob
83	6	7.0	291	1	HEM3_CLOPE	Q8xkg4 clostridium
84	6	7.0	293	1	IE68_HSVEB	P28940 equine herp
85	6	7.0	294	1	DAPA_BUCAP	Q8ka24 buchnera ap
86	6	7.0	307	1	S3AA_BACSU	Q01367 bacillus su
87	6	7.0	312	1	TRUB_BUCAI	P57456 buchnera ap
88	6	7.0	319	1	YHA1_CRYPA	P10941 cryphonectr
89	6	7.0	327	1	ANX8_MOUSE	O35640 mus musculu
90	6	7.0	332	1	KC21_SCHPO	P40231 schizosacch
91	6	7.0	338	1	RUVB_THETN	Q8ran2 thermoanaer
92	6	7.0	340	1	NODI_RHILO	P23703 rhizobium l
93	6	7.0	346	1	RUVB_CAUCR	Q9a3g8 caulobacter
94	6	7.0	352	1	TRUD_PSESM	Q88616 pseudomonas
95	6	7.0	359	1	LEU3_PASMU	Q9cjn6 pasteurella
96	6	7.0	370	1	SYW_METJA	Q58810 methanococc
97	6	7.0	387	1	DM3L_HUMAN	Q9ujw3 homo sapien
98	6	7.0	389	1	PRS8_DICDI	P34124 dictyosteli
99	6	7.0	396	1	POFD_SCHPO	O94334 schizosacch
100	6	7.0	403	1	RAGE_MOUSE	Q62151 mus musculu

ALIGNMENTS

RESULT 1

```
IGFB_RAT
ID   IGFB_RAT       STANDARD;      PRT;   181 AA.
AC   P08024;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88015572; PubMed=3658684;
RA   Shimatsu A., Rotwein P.;
RT   "Sequence of two rat insulin-like growth factor I mRNAs differing
RT   within the 5' untranslated region.";
RL   Nucleic Acids Res. 15:7196-7196(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [4]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M15650; AAA41214.1; -.
DR   EMBL; M15647; AAA41214.1; JOINED.
DR   EMBL; M15648; AAA41214.1; JOINED.
DR   EMBL; M15649; AAA41214.1; JOINED.
DR   EMBL; X06107; CAA29480.1; ALT_SEQ.
DR   EMBL; M15480; AAA41385.1; ALT_SEQ.
DR   PIR; A27804; A27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    181       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 2).
SQ   SEQUENCE   181 AA;  20322 MW;  52BAB431875A1A06 CRC64;

  Query Match             46.5%;  Score 40;  DB 1;  Length 181;
  Best Local Similarity   100.0%;  Pred. No. 7.1e-35;
  Matches   40;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         40 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 79
              |||||||||||||||||||||||||||||||||||||||||
Db        113 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 152


RESULT 2
IGFA_MOUSE
ID   IGFA_MOUSE     STANDARD;      PRT;   127 AA.
AC   P05017;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X04480; CAA28168.1; -.
DR   PIR; A25540; A25540.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
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DR   GO; GO:0010001; P:glial cell differentiation; IMP.
DR   GO; GO:0007399; P:neurogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    127       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   127 AA;  14120 MW;  1054B8CAC72DC2D7 CRC64;

  Query Match             36.0%;  Score 31;  DB 1;  Length 127;
  Best Local Similarity   100.0%;  Pred. No. 1.6e-25;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83


RESULT 3
IGFB_MOUSE
ID   IGFB_MOUSE     STANDARD;      PRT;   133 AA.
AC   P05018;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=FVB/N; TISSUE=Liver;
RX   MEDLINE=22388257; PubMed=12477932;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length
RT   human and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X04482; CAA28170.1; -.
DR   EMBL; BC012409; AAH12409.1; -.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
DR   GO; GO:0010001; P:glial cell differentiation; IMP.
DR   GO; GO:0007399; P:neurogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    133       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   133 AA;  14915 MW;  B8E5C05B88D62502 CRC64;

  Query Match             36.0%;  Score 31;  DB 1;  Length 133;
  Best Local Similarity   100.0%;  Pred. No. 1.6e-25;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83


RESULT 4
IGFA_RAT
ID   IGFA_RAT       STANDARD;      PRT;   153 AA.
AC   P08025;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
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RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=88003970; PubMed=3652906;
RA   Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA   Hoyt E.C., Lund P.K.;
RT   "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT   I precursor.";
RL   DNA 6:325-330(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91103966; PubMed=1368571;
RA   Kato H., Okoshi A., Miura Y., Noguchi T.;
RT   "A new cDNA clone relating to larger molecular species of rat
RT   insulin-like growth factor-I mRNA.";
RL   Agric. Biol. Chem. 54:1599-1601(1990).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [5]
RP   SEQUENCE OF 46-153 FROM N.A.
RX   MEDLINE=87246437; PubMed=3595538;
RA   Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT   "Identification, characterization, and regulation of a rat
RT   complementary deoxyribonucleic acid which encodes insulin-like growth
RT   factor-I.";
RL   Endocrinology 121:684-691(1987).
RN   [6]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X06043; CAA29436.1; -.
DR   EMBL; M15651; AAA41215.1; -.
DR   EMBL; M15647; AAA41215.1; JOINED.
DR   EMBL; M15648; AAA41215.1; JOINED.
DR   EMBL; M15649; AAA41215.1; JOINED.
DR   EMBL; M17714; AAA41227.1; -.
DR   EMBL; M17335; AAA41386.1; ALT_INIT.
DR   EMBL; M15481; AAA41387.1; ALT_INIT.
DR   PIR; B27804; B27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 4).
SQ   SEQUENCE   153 AA;  17079 MW;  966F3C0FA4EB3DE7 CRC64;

  Query Match             36.0%;  Score 31;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-25;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         79 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 5
IGF1_SUNMU
ID   IGF1_SUNMU     STANDARD;      PRT;    81 AA.
AC   Q28933;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Suncus murinus (House shrew) (Musk shrew).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Insectivora; Soricidae; Crocidurinae; Suncus.
OX   NCBI_TaxID=9378;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BAN, and NAG; TISSUE=Liver;
RA   Ishikawa A.;
RT   "Partial sequence of a IGF-I cDNA in the musk shrew, Suncus murinus.";
RL   Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D43957; BAA07897.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00276; INSULINA.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma.
FT   NON_TER       1      1
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```
FT   PROPEP       <1      4       BY SIMILARITY.
FT   CHAIN         5     74       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN        5     33       B.
FT   DOMAIN       34     45       C.
FT   DOMAIN       46     66       A.
FT   DOMAIN       67     74       D.
FT   PROPEP       75    >81       E PEPTIDE.
FT   DISULFID     10     52       BY SIMILARITY.
FT   DISULFID     22     65       BY SIMILARITY.
FT   DISULFID     51     56       BY SIMILARITY.
FT   NON_TER      81     81
SQ   SEQUENCE   81 AA;  8869 MW;  AC2C40972D05E3C4 CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 81;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         40 RRAPQTGIVDECCFRSCDLRRLEMYC 65


RESULT 6
IGF1_CANFA
ID   IGF1_CANFA     STANDARD;      PRT;   122 AA.
AC   P33712;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1 OR IGFIA.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=93366192; PubMed=8359700;
RA   Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT   "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL   Gene 130:305-306(1993).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR   PIR; PN0622; PN0622.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     19       BY SIMILARITY.
FT   CHAIN        20     89       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       20     48       B.
FT   DOMAIN       49     60       C.
FT   DOMAIN       61     81       A.
FT   DOMAIN       82     89       D.
FT   PROPEP       90    122       E PEPTIDE.
FT   DISULFID     25     67       BY SIMILARITY.
FT   DISULFID     37     80       BY SIMILARITY.
FT   DISULFID     66     71       BY SIMILARITY.
SQ   SEQUENCE   122 AA;  13407 MW;  036A004DC44E7D75 CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 122;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         55 RRAPQTGIVDECCFRSCDLRRLEMYC 80


RESULT 7
IGF1_HORSE
ID   IGF1_HORSE     STANDARD;      PRT;   122 AA.
AC   P51458;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=97013467; PubMed=8860303;
RA   Otte K., Rozell B., Gessbo A., Engstrom W.;
RT   "Cloning and sequencing of an equine insulin-like growth factor I
RT   cDNA and its expression in fetal and adult tissues.";
RL   Gen. Comp. Endocrinol. 102:11-15(1996).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U28070; AAA68952.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48       BY SIMILARITY.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119   >122       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   NON_TER     122    122
SQ   SEQUENCE   122 AA;  13501 MW;  5A935B334435C9F9 CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 122;
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  Best Local Similarity   100.0%;  Pred. No. 2.8e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 8
IGF1_CAVPO
ID   IGF1_CAVPO     STANDARD;      PRT;   130 AA.
AC   P17647;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pancreas;
RX   MEDLINE=90332447; PubMed=2377480;
RA   Bell G.I., Stempien M.M., Fong N.M., Scino S.;
RT   "Sequence of a cDNA encoding guinea pig IGF-I.";
RL   Nucleic Acids Res. 18:4275-4275(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X52951; CAA37127.1; -.
DR   PIR; S12719; IGGP1.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1     25
FT   CHAIN        26     95       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       26     54       B.
FT   DOMAIN       55     66       C.
FT   DOMAIN       67     87       A.
FT   DOMAIN       88     95       D.
FT   PROPEP       96    130       E PEPTIDE.
FT   DISULFID     31     73       BY SIMILARITY.
FT   DISULFID     43     86       BY SIMILARITY.
FT   DISULFID     72     77       BY SIMILARITY.
SQ   SEQUENCE   130 AA;  14342 MW;  251B20AEDC5729FF CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 130;
  Best Local Similarity   100.0%;  Pred. No. 3e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          61 RRAPQTGIVDECCFRSCDLRRLEMYC 86


RESULT 9
IGF1_RABIT
ID   IGF1_RABIT     STANDARD;      PRT;   143 AA.
AC   Q95222; O18846;
DT   01-NOV-1997 (Rel. 35, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Oryctolagus cuniculus (Rabbit).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX   NCBI_TaxID=9986;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC   STRAIN=ZIKA;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC   STRAIN=ZIKA; TISSUE=Liver;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=Q95222-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=Q95222-2; Sequence=VSP_002705;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U75390; AAB48032.1; -.
DR   EMBL; AF022961; AAB80950.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL        1     32       POTENTIAL.
FT   CHAIN        33    102       INSULIN-LIKE GROWTH FACTOR I.
FT   PROPEP      103    143       E PEPTIDE.
FT   DOMAIN       33     61       B.
FT   DOMAIN       62     73       C.
FT   DOMAIN       74     94       A.
FT   DOMAIN       95    102       D.
FT   DISULFID     38     80       BY SIMILARITY.
FT   DISULFID     50     93       BY SIMILARITY.
FT   DISULFID     79     84       BY SIMILARITY.
FT   VARSPLIC    119    143       YQPPSTNKKMKSQRRRKGSTFEEHK -> EVHLKNTSRGSA
FT                                GNKNYRM (in isoform IGF-IA).
FT                                /FTId=VSP_002705.
SQ   SEQUENCE   143 AA;  16091 MW;  819AF577800A1B1A CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 143;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          68 RRAPQTGIVDECCFRSCDLRRLEMYC 93
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RESULT 10
IGF1_PIG
ID   IGF1_PIG       STANDARD;      PRT;   153 AA.
AC   P16545;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90221822; PubMed=2326169;
RA   Mueller M., Brem G.;
RT   "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT   untranslated region, exons 1 and 2 and mRNA.";
RL   Nucleic Acids Res. 18:364-364(1990).
RN   [2]
RP   SEQUENCE OF 20-153 FROM N.A.
RX   MEDLINE=89096956; PubMed=3211153;
RA   Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT   "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT   deoxyribonucleic acid cloning and uterine expression of messenger
RT   ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL   Mol. Endocrinol. 2:674-681(1988).
RN   [3]
RP   SEQUENCE OF 1-21 FROM N.A.
RC   STRAIN=White Landrace; TISSUE=Liver;
RX   MEDLINE=94128209; PubMed=8297476;
RA   Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA   Gilmour R.S.;
RT   "The porcine insulin-like growth factor-I gene: characterization and
RT   expression of alternate transcription sites.";
RL   J. Mol. Endocrinol. 11:201-211(1993).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X17492; CAA35527.1; -.
DR   EMBL; X52388; CAA36617.1; -.
DR   EMBL; X52077; CAA36296.1; -.
DR   EMBL; M31175; AAA31043.1; ALT_INIT.
DR   EMBL; X17638; CAA35632.1; -.
DR   PIR; S12825; S12825.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17010 MW;  6098792DCDA0CD7D CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 11
IGFA_HUMAN
ID   IGFA_HUMAN     STANDARD;      PRT;   153 AA.
AC   P01343;
DT   21-JUL-1986 (Rel. 01, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=84068210; PubMed=6358902;
RA   Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA   Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT   "Sequence of cDNA encoding human insulin-like growth factor I
RT   precursor.";
RL   Nature 306:609-611(1983).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108910; PubMed=2935423;
RA   le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
RT   "Complete characterization of the human IGF-I nucleotide sequence
RT   isolated from a newly constructed adult liver cDNA library.";
RL   FEBS Lett. 196:108-112(1986).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [5]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91207342; PubMed=2018498;
RA   Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA   Sussenbach J.S.;
RT   "Complete nucleotide sequence of the high molecular weight human
RT   IGF-I mRNA.";
RL   Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN   [6]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RX   MEDLINE=92186627; PubMed=1372070;
RA   Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
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RT   "Characterization of two cDNAs encoding insulin-like growth factor 1
RT   (IGF-1) in the human fetal brain.";
RL   Brain Res. Mol. Brain Res. 12:275-277(1992).
RN   [7]
RP   SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [8]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
RN   [9]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [10]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [11]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [12]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14156; AAA52538.1; -.
DR   EMBL; M12659; AAA52538.1; JOINED.
DR   EMBL; M14153; AAA52538.1; JOINED.
DR   EMBL; M14154; AAA52538.1; JOINED.
DR   EMBL; X00173; CAA24998.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; M27544; AAA52787.1; -.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   EMBL; X57025; CAA40342.1; -.
DR   EMBL; X56773; CAA40092.1; -.
DR   PIR; A92581; IGHU1.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1B9G; 23-FEB-99.
DR   PDB; 1GZR; 02-OCT-02.
DR   PDB; 1GZY; 02-OCT-02.
DR   PDB; 1GZZ; 25-JUL-02.
DR   PDB; 1H02; 25-JUL-02.
DR   PDB; 1H59; 16-MAY-02.
DR   PDB; 1IMX; 03-OCT-01.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; 3D-structure;
KW   Alternative splicing; Signal.
FT   SIGNAL       1     21       POTENTIAL.
FT   PROPEP      22     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN      49     77       B.
FT   DOMAIN      78     89       C.
FT   DOMAIN      90    110       A.
FT   DOMAIN     111    118       D.
FT   PROPEP     119    153       E PEPTIDE.
FT   DISULFID    54     96
FT   DISULFID    66    109
FT   DISULFID    95    100
FT   STRAND      51     51
FT   TURN        55     55
FT   HELIX       56     69
FT   TURN        87     88
FT   HELIX       91     95
FT   TURN        96     97
FT   STRAND      99     99
FT   HELIX      106    109
SQ   SEQUENCE   153 AA;  17026 MW;  C6ECD92DCA9B37BC CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 12
IGF1_BOVIN
ID   IGF1_BOVIN     STANDARD;      PRT;   154 AA.
AC   P07455;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-NOV-1991 (Rel. 20, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
```

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DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE OF 2-154 FROM N.A.
RX   MEDLINE=90175014; PubMed=2308858;
RA   Fotsis T., Murphy C., Gannon F.;
RT   "Nucleotide sequence of the bovine insulin-like growth factor 1
RT   (IGF-1) and its IGF-1A precursor.";
RL   Nucleic Acids Res. 18:676-676(1990).
RN   [2]
RP   SEQUENCE OF 50-119 FROM N.A.
RX   MEDLINE=95172127; PubMed=7867698;
RA   Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT   "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT   oviduct during the oestrous cycle.";
RL   Exp. Clin. Endocrinol. 102:364-369(1994).
RN   [3]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=86085881; PubMed=3941093;
RA   Honegger A., Humbel R.E.;
RT   "Insulin-like growth factors I and II in fetal and adult bovine
RT   serum. Purification, primary structures, and immunological
RT   cross-reactivities.";
RL   J. Biol. Chem. 261:569-575(1986).
RN   [4]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=88268820; PubMed=3390164;
RA   Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT   "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT   and biological activities compared with those of a potent truncated
RT   form.";
RL   Biochem. J. 251:95-103(1988).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X15726; CAA33746.1; -.
DR   EMBL; S76122; AAD14209.1; -.
DR   PIR; S12672; IGBO1.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     49
FT   CHAIN       50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      50     78       B.
FT   DOMAIN      79     90       C.
FT   DOMAIN      91    111       A.
FT   DOMAIN     112    119       D.
FT   PROPEP     120    154       E PEPTIDE.
FT   DISULFID    55     97       BY SIMILARITY.
FT   DISULFID    67    110       BY SIMILARITY.
FT   DISULFID    96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17066 MW;  64201B6AF3140999 CRC64;
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  Query Match           30.2%;  Score 26;  DB 1;  Length 154;
  Best Local Similarity  100.0%;  Pred. No. 3.5e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db         85 RRAPQTGIVDECCFRSCDLRRLEMYC 110


RESULT 13
IGF1_CAPHI
ID   IGF1_CAPHI     STANDARD;      PRT;   154 AA.
AC   P51457;
DT   01-OCT-1996 (Rel. 34, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   15-MAR-2004 (Rel. 43, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Capra hircus (Goat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Capra.
OX   NCBI_TaxID=9925;
RN   [1]
RP   SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC   STRAIN=Shiba; TISSUE=Liver;
RX   MEDLINE=95290780; PubMed=7772848;
RA   Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA   Utsumi K.;
RT   "Tissue- and development-specific expression of goat insulin-like
RT   growth factor-I (IGF-I) mRNAs.";
RL   Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Expressed in all tissues examined: brain,
CC       lung, liver, spleen, uterus, ovary, testis, heart and skeletal
CC       muscle.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D11378; BAA01976.1; -.
DR   EMBL; D26119; BAB77524.1; ALT_SEQ.
DR   EMBL; D26116; BAB77524.1; JOINED.
DR   EMBL; D26117; BAB77524.1; JOINED.
DR   EMBL; D26118; BAB77524.1; JOINED.
DR   PIR; JC2483; JC2483.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     49       BY SIMILARITY.
FT   CHAIN       50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      50     78       B.
FT   DOMAIN      79     90       C.
FT   DOMAIN      91    111       A.
FT   DOMAIN     112    119       D.
FT   PROPEP     120    154       E PEPTIDE.
FT   DISULFID    55     97       BY SIMILARITY.
FT   DISULFID    67    110       BY SIMILARITY.
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FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17082 MW;  07238B6AF3068422 CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 154;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         85 RRAPQTGIVDECCFRSCDLRRLEMYC 110


RESULT 14
IGF1_SHEEP
ID   IGF1_SHEEP     STANDARD;      PRT;   154 AA.
AC   P10763;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90126234; PubMed=2575490;
RA   Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT   "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT   in the mRNA population.";
RL   DNA 8:649-657(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91197361; PubMed=2015053;
RA   Dickson M.C., Saunders J.C., Gilmour R.S.;
RT   "The ovine insulin-like growth factor-I gene: characterization,
RT   expression and identification of a putative promoter.";
RL   J. Mol. Endocrinol. 6:17-31(1991).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93221682; PubMed=8466647;
RA   Ohlsen S.M., Dean D.M., Wong E.A.;
RT   "Characterization of multiple transcription initiation sites of the
RT   ovine insulin-like growth factor-I gene and expression profiles of
RT   three alternatively spliced transcripts.";
RL   DNA Cell Biol. 12:243-251(1993).
RN   [4]
RP   SEQUENCE OF 55-135 FROM N.A.
RC   STRAIN=Coopworth; TISSUE=Liver;
RX   MEDLINE=93250051; PubMed=8485157;
RA   Demmer J., Hill D.F., Petersen G.B.;
RT   "Characterization of two sheep insulin-like growth factor II cDNAs
RT   with different 5'-untranslated regions.";
RL   Biochim. Biophys. Acta 1173:79-80(1993).
RN   [5]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=89136887; PubMed=2537174;
RA   Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT   "Sheep insulin-like growth factors I and II: sequences, activities
RT   and assays.";
RL   Endocrinology 124:1173-1183(1989).
RN   [6]
RP   SEQUENCE OF 50-79.
RX   MEDLINE=89323215; PubMed=2752053;
RA   Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT   "Simultaneous isolation of insulin-like growth factors I and II from
RT   adult sheep serum.";
RL   Biochim. Biophys. Acta 997:27-35(1989).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=3;
CC       Name=B;
CC         IsoId=P10763-1; Sequence=Displayed;
CC       Name=A;
CC         IsoId=P10763-2; Sequence=VSP_002707;
CC       Name=C;
CC         IsoId=P10763-3; Sequence=VSP_002706;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M30653; AAA80532.1; -.
DR   EMBL; M30653; AAA80533.1; -.
DR   EMBL; M31734; AAA80535.1; -.
DR   EMBL; M31734; AAA80534.1; -.
DR   EMBL; M31736; AAA31545.1; -.
DR   EMBL; M31735; AAA31546.1; -.
DR   EMBL; M31735; AAA31547.1; -.
DR   EMBL; X69472; CAA49230.1; -.
DR   EMBL; X69473; CAA49230.1; JOINED.
DR   EMBL; X69474; CAA49230.1; JOINED.
DR   EMBL; X69475; CAA49230.1; JOINED.
DR   EMBL; X69472; CAA49231.1; -.
DR   EMBL; X69473; CAA49231.1; JOINED.
DR   EMBL; X69474; CAA49231.1; JOINED.
DR   EMBL; X69475; CAA49231.1; JOINED.
DR   EMBL; X69473; CAA49232.1; -.
DR   EMBL; X69474; CAA49232.1; JOINED.
DR   EMBL; X69475; CAA49232.1; JOINED.
DR   EMBL; M89787; AAA31544.1; -.
DR   PIR; S22877; A33390.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL       1     ?
FT   PROPEP       ?     49
FT   CHAIN       50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      50     78        B.
FT   DOMAIN      79     90        C.
FT   DOMAIN      91    111        A.
FT   DOMAIN     112    119        D.
FT   PROPEP     120    154        E PEPTIDE.
FT   DISULFID    55     97        BY SIMILARITY.
FT   DISULFID    67    110        BY SIMILARITY.
FT   DISULFID    96    101        BY SIMILARITY.
FT   VARSPLIC     1     21        MGKISSLPTQLFKCCFCDFLK -> MVTPT (in
FT                                isoform C).
FT                                /FTId=VSP_002706.
FT   VARSPLIC     1     34        Missing (in isoform A).
FT                                /FTId=VSP_002707.
FT   CONFLICT    57     57        A -> V (IN REF. 4).
SQ   SEQUENCE   154 AA;  17012 MW;  E226CE6AF653CF3F CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 154;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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                     ||||||||||||||||||||||||||
Db          85 RRAPQTGIVDECCFRSCDLRRLEMYC 110


RESULT 15
IGFB_HUMAN
ID   IGFB_HUMAN     STANDARD;      PRT;   195 AA.
AC   P05019;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094355; PubMed=3455760;
RA   Rotwein P.;
RT   "Two insulin-like growth factor I messenger RNAs are expressed in
RT   human liver.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [4]
RP   SEQUENCE OF 22-50 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [5]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
RN   [6]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [7]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [8]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [9]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
RN   [10]
RP   VARIANT ASP-187.
RX   MEDLINE=99318093; PubMed=10391209;
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RT   "Characterization of single-nucleotide polymorphisms in coding regions
RT   of human genes.";
RL   Nat. Genet. 22:231-238(1999).
RN   [11]
RP   ERRATUM.
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RL   Nat. Genet. 23:373-373(1999).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=External;
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14155; AAA52537.1; -.
DR   EMBL; M12659; AAA52537.1; JOINED.
DR   EMBL; M14153; AAA52537.1; JOINED.
DR   EMBL; M14154; AAA52537.1; JOINED.
DR   EMBL; M11568; AAA52539.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   PIR; A01611; IGHU1B.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1BQT; 18-MAY-99.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
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DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; 3D-structure; Plasma;
KW   Alternative splicing; Signal; Polymorphism.
FT   SIGNAL       1     21       POTENTIAL.
FT   PROPEP      22     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN      49     77       B.
FT   DOMAIN      78     89       C.
FT   DOMAIN      90    110       A.
FT   DOMAIN     111    118       D.
FT   PROPEP     119    195       E PEPTIDE.
FT   DISULFID    54     96
FT   DISULFID    66    109
FT   DISULFID    95    100
FT   VARIANT    187    187       A -> D (in dbSNP:6213).
FT                              /FTId=VAR_013945.
FT   STRAND      51     51
FT   TURN        55     55
FT   HELIX       56     69
FT   TURN        87     88
FT   HELIX       91     95
FT   TURN        96     97
FT   STRAND      99     99
FT   HELIX      106    109
SQ   SEQUENCE   195 AA;  21841 MW;  E88A8CFBD1CD1873 CRC64;

  Query Match             30.2%;  Score 26;  DB 1;  Length 195;
  Best Local Similarity   100.0%;  Pred. No. 4.3e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 16
IGF1_COTJA
ID   IGF1_COTJA     STANDARD;      PRT;   124 AA.
AC   P51462;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Coturnix coturnix japonica (Japanese quail).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Coturnix.
OX   NCBI_TaxID=93934;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95187621; PubMed=7881819;
RA   Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA   Noguchi T.;
RT   "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT   Japanese quail (Coturnix coturnix japonica): changes during growth
RT   and development or after estrogen administration.";
RL   Comp. Biochem. Physiol. 109C:191-204(1994).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S75247; -; NOT_ANNOTATED_CDS.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma.
FT   NON_TER      1      1
FT   PROPEP      <1     19       POTENTIAL.
FT   CHAIN       20     89       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      20     48       B.
FT   DOMAIN      49     60       C.
FT   DOMAIN      61     81       A.
FT   DOMAIN      82     89       D.
FT   PROPEP      90    124       E PEPTIDE.
FT   DISULFID    25     67       BY SIMILARITY.
FT   DISULFID    37     80       BY SIMILARITY.
FT   DISULFID    66     71       BY SIMILARITY.
SQ   SEQUENCE   124 AA;  13888 MW;  52254EB1BA52C3B6 CRC64;

  Query Match             12.8%;  Score 11;  DB 1;  Length 124;
  Best Local Similarity   100.0%;  Pred. No. 0.00018;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         26 SCDLRRLEMYC 36
              ||||||||||||
Db         70 SCDLRRLEMYC 80


RESULT 17
IGF1_CHICK
ID   IGF1_CHICK     STANDARD;      PRT;   153 AA.
AC   P18254;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90190648; PubMed=2628728;
RA   Kajimoto Y., Rotwein P.;
RT   "Structure and expression of a chicken insulin-like growth factor I
RT   precursor.";
RL   Mol. Endocrinol. 3:1907-1913(1989).
RN   [2]
RP   SEQUENCE OF 1-21 FROM N.A.
RX   MEDLINE=91236750; PubMed=2033062;
RA   Rotwein P., Kajimoto Y.;
RT   "Structure of the chicken insulin-like growth factor I gene reveals
RT   conserved promoter elements.";
RL   J. Biol. Chem. 266:9724-9731(1991).
RN   [3]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=91106695; PubMed=2272467;
RA   Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA   McMurtry J.P., Wallace J.C.;
RT   "Chicken insulin-like growth factor-I: amino acid sequence,
RT   radioimmunoassay, and plasma levels between strains and during
RT   growth.";
RL   Gen. Comp. Endocrinol. 79:459-468(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
```

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CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M32791; AAA48828.1; -.
DR   EMBL; M74176; AAA48829.1; -.
DR   PIR; A41399; A41399.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      49     77       B.
FT   DOMAIN      78     89       C.
FT   DOMAIN      90    110       A.
FT   DOMAIN     111    118       D.
FT   PROPEP     119    153       E PEPTIDE.
FT   DISULFID    54     96       BY SIMILARITY.
FT   DISULFID    66    109       BY SIMILARITY.
FT   DISULFID    95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17267 MW;  AAE13FDED13EE2F8 CRC64;

  Query Match             12.8%;  Score 11;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 0.00022;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         26 SCDLRRLEMYC 36
              ||||||||||| 
Db         99 SCDLRRLEMYC 109


RESULT 18
IGF1_XENLA
ID   IGF1_XENLA     STANDARD;      PRT;   153 AA.
AC   P16501;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90231335; PubMed=2330002;
RA   Kajimoto Y., Rotwein P.;
RT   "Evolution of insulin-like growth factor I (IGF-I): structure and
RT   expression of an IGF-I precursor from Xenopus laevis.";
RL   Mol. Endocrinol. 4:217-226(1990).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M29857; AAA70330.1; -.
DR   PIR; A36079; A36079.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      49     77       B.
FT   DOMAIN      78     89       C.
FT   DOMAIN      90    110       A.
FT   DOMAIN     111    118       D.
FT   PROPEP     119    153       E PEPTIDE.
FT   DISULFID    54     96       BY SIMILARITY.
FT   DISULFID    66    109       BY SIMILARITY.
FT   DISULFID    95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17349 MW;  720EDDAA17AFCFBE CRC64;

  Query Match             11.6%;  Score 10;  DB 1;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 0.0025;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMPK 58
              ||||||||||
Db        122 RAQRHTDMPK 131


RESULT 19
IGF2_CHICK
ID   IGF2_CHICK     STANDARD;      PRT;    66 AA.
AC   P33717;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II (IGF-II).
GN   IGF2.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=90132351; PubMed=1688912;
RA   Kallincos N.C., Wallace J.C., Francis G.L., Ballard F.J.;
RT   "Chemical and biological characterization of chicken insulin-like
RT   growth factor-II.";
RL   J. Endocrinol. 124:89-97(1990).
RN   [2]
RP   SEQUENCE OF 1-35.
RX   MEDLINE=88244560; PubMed=3379351;
RA   Dawe S.R., Francis G.L., McNamara P.J., Wallace J.C., Ballard F.J.;
RT   "Purification, partial sequences and properties of chicken
RT   insulin-like growth factors.";
RL   J. Endocrinol. 117:173-181(1988).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
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DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor.
FT   DOMAIN        1     27       B.
FT   DOMAIN       28     39       C.
FT   DOMAIN       40     60       A.
FT   DOMAIN       61     66       D.
FT   DISULFID      8     46       BY SIMILARITY.
FT   DISULFID     20     59       BY SIMILARITY.
FT   DISULFID     45     50       BY SIMILARITY.
SQ   SEQUENCE   66 AA;  7298 MW;  A018C0E71D5EB1E2 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 66;
  Best Local Similarity   100.0%;  Pred. No. 0.013;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         44 ECCFRSCDL 52


RESULT 20
IGF2_CAVPO
ID   IGF2_CAVPO     STANDARD;      PRT;   128 AA.
AC   Q08279;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Somatomedin A)
DE   (Fragment).
GN   IGF2.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Hartley; TISSUE=Liver;
RX   MEDLINE=93246007; PubMed=1301379;
RA   Levinovitz A., Norstedt G., van den Berg S., Robinson I.C.A.F.,
RA   Ekstroem T.J.;
RT   "Isolation of an insulin-like growth factor II cDNA from guinea pig
RT   liver: expression and developmental regulation.";
RL   Mol. Cell. Endocrinol. 89:105-110(1992).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- DEVELOPMENTAL STAGE: EXPRESSED PREDOMINANTLY IN FETAL TISSUES AND
CC       AT LOWER LEVELS IN ADULT.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; S59899; AAB26479.1; -.
DR   PIR; I57671; I57671.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24       BY SIMILARITY.
FT   CHAIN        25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92   >128       E PEPTIDE (BY SIMILARITY).
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
FT   NON_TER     128    128
SQ   SEQUENCE   128 AA;  14419 MW;  BC65A1D81A4CE056 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 128;
  Best Local Similarity   100.0%;  Pred. No. 0.024;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         69 ECCFRSCDL 77


RESULT 21
IGF2_MUSVI
ID   IGF2_MUSVI     STANDARD;      PRT;   129 AA.
AC   P41694;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Fragment).
GN   IGF2.
OS   Mustela vison (American mink).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
OC   Mustela.
OX   NCBI_TaxID=9667;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93307613; PubMed=7686523;
RA   Ekstroem T.J., Baecklin B.M., Lindqvist Y., Engstroem W.;
RT   "Insulin-like growth factor II in the mink (Mustela vison):
RT   determination of a cDNA nucleotide sequence and developmental
RT   regulation of its expression.";
RL   Gen. Comp. Endocrinol. 90:243-250(1993).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; S63459; AAB27392.2; -.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24       BY SIMILARITY.
FT   CHAIN        25     92       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     65       C.
FT   DOMAIN       66     86       A.
FT   DOMAIN       87     92       D.
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FT   PROPEP       93    >129       E PEPTIDE (BY SIMILARITY).
FT   DISULFID     33      72       BY SIMILARITY.
FT   DISULFID     45      85       BY SIMILARITY.
FT   DISULFID     71      76       BY SIMILARITY.
FT   NON_TER     129     129
SQ   SEQUENCE   129 AA;  14436 MW;  FD06661DAFB473D0 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 129;
  Best Local Similarity   100.0%;  Pred. No. 0.024;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         70 ECCFRSCDL 78


RESULT 22
IGF2_BOVIN
ID   IGF2_BOVIN     STANDARD;      PRT;   155 AA.
AC   P07456;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-MAY-1992 (Rel. 22, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II) (Erythrotropin)
DE   (Fragment).
GN   IGF2.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE OF 6-155 FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90356421; PubMed=2388846;
RA   Brown W.M., Dziegielewska K.M., Foreman R.C., Saunders N.R.;
RT   "The nucleotide and deduced amino acid sequences of insulin-like
RT   growth factor II cDNAs from adult bovine and fetal sheep liver.";
RL   Nucleic Acids Res. 18:4614-4614(1990).
RN   [2]
RP   SEQUENCE OF 6-62 FROM N.A.
RX   MEDLINE=93083057; PubMed=1280544;
RA   Congote L.F., Mazza L., Palfree R.G.E.;
RT   "Nucleotide sequence of the central coding region of bovine
RT   erythrotropin/insulin-like growth factor II cDNA from fetal intestine
RT   and northern analysis of the major IGF II transcripts at the time of
RT   hepatic erythropoiesis.";
RL   Comp. Biochem. Physiol. 103B:127-131(1992).
RN   [3]
RP   SEQUENCE OF 1-67.
RX   MEDLINE=86085881; PubMed=3941093;
RA   Honegger A., Humbel R.E.;
RT   "Insulin-like growth factors I and II in fetal and adult bovine
RT   serum. Purification, primary structures, and immunological
RT   cross-reactivities.";
RL   J. Biol. Chem. 261:569-575(1986).
RN   [4]
RP   REVISIONS.
RX   MEDLINE=88268820; PubMed=3390164;
RA   Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT   "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT   and biological activities compared with those of a potent truncated
RT   form.";
RL   Biochem. J. 251:95-103(1988).
RN   [5]
RP   SEQUENCE OF 1-31.
RX   MEDLINE=90147754; PubMed=2302223;
RA   Li Q., Blacher R., Esch F., Congote L.F.;
RT   "A heparin-binding erythroid cell stimulating factor from fetal
RT   bovine serum has the N-terminal sequence of insulin-like growth
RT   factor II.";
RL   Biochem. Biophys. Res. Commun. 166:557-561(1990).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X53553; CAA37620.1; -.
DR   EMBL; X53867; CAA37861.1; -.
DR   PIR; S10983; IGBO2.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor.
FT   NON_TER       1      1
FT   CHAIN         1     67       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN        1     28       B.
FT   DOMAIN       29     40       C.
FT   DOMAIN       41     61       A.
FT   DOMAIN       62     67       D.
FT   PROPEP       68    155       E PEPTIDE.
FT   DISULFID      9     47       BY SIMILARITY.
FT   DISULFID     21     60       BY SIMILARITY.
FT   DISULFID     46     51       BY SIMILARITY.
FT   CONFLICT     22     23       GD -> DG (IN REF. 5).
FT   CONFLICT     35     35       I -> S (IN REF. 3).
SQ   SEQUENCE   155 AA;  17261 MW;  50A45E3549397E0F CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 155;
  Best Local Similarity   100.0%;  Pred. No. 0.029;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         45 ECCFRSCDL 53


RESULT 23
IGF1_ONCKI
ID   IGF1_ONCKI     STANDARD;      PRT;   176 AA.
AC   P17085;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.-P., Duguay S.J., Plisetskaya E.M., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone-regulated expression of
RT   salmon insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE OF 45-114.
RX   MEDLINE=94062830; PubMed=8243465;
RA   Moriyama S., Duguay S.J., Conlon J.M., Duan C., Dickhoff W.W.,
RA   Plisetskaya E.M.;
RT   "Recombinant coho salmon insulin-like growth factor I. Expression in
```

```
RT   Escherichia coli, purification and characterization.";
RL   Eur. J. Biochem. 218:205-211(1993).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M32792; AAA49410.1; -.
DR   PIR; A41396; A41396.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     44
FT   CHAIN       45    114       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      45     73       B.
FT   DOMAIN      74     85       C.
FT   DOMAIN      86    106       A.
FT   DOMAIN     107    114       D.
FT   PROPEP     115    176       E PEPTIDE.
FT   DISULFID    50     92       BY SIMILARITY.
FT   DISULFID    62    105       BY SIMILARITY.
FT   DISULFID    91     96       BY SIMILARITY.
SQ   SEQUENCE   176 AA;  19517 MW;  4AADCFCCEDAD8094 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 176;
  Best Local Similarity   100.0%;  Pred. No. 0.032;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db        118 RAQRHTDMP 126


RESULT 24
IGF1_ONCMY
ID   IGF1_ONCMY     STANDARD;      PRT;   176 AA.
AC   Q02815;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93028377; PubMed=1409585;
RA   Shamblott M.J., Chen T.T.;
RT   "Identification of a second insulin-like growth factor in a fish
RT   species.";
RL   Proc. Natl. Acad. Sci. U.S.A. 89:8913-8917(1992).
CC   -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC       are structurally and functionally related to insulin but have a
CC       much higher growth-promoting activity.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M95183; AAA49412.1; -.
DR   PIR; A46244; A46244.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL       1      ?
FT   PROPEP       ?     44       BY SIMILARITY.
FT   CHAIN       45    114       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN      45     73       B.
FT   DOMAIN      74     85       C.
FT   DOMAIN      86    106       A.
FT   DOMAIN     107    114       D.
FT   PROPEP     115    176       E PEPTIDE.
FT   DISULFID    50     92       BY SIMILARITY.
FT   DISULFID    62    105       BY SIMILARITY.
FT   DISULFID    91     96       BY SIMILARITY.
SQ   SEQUENCE   176 AA;  19510 MW;  DE86283D80DDAD06 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 176;
  Best Local Similarity   100.0%;  Pred. No. 0.032;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         49 RAQRHTDMP 57
              |||||||||
Db        118 RAQRHTDMP 126


RESULT 25
IGF2_SHEEP
ID   IGF2_SHEEP     STANDARD;      PRT;   179 AA.
AC   P10764;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-OCT-1989 (Rel. 12, Last sequence update)
DT   10-OCT-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor II precursor (IGF-II).
GN   IGF2.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=89345107; PubMed=2762134;
RA   O'Mahoney J.V., Adams T.E.;
RT   "Nucleotide sequence of an ovine insulin-like growth factor-II cDNA.";
RL   Nucleic Acids Res. 17:5392-5392(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90356421; PubMed=2388846;
RA   Brown W.M., Dziegielewska K.M., Foreman R.C., Saunders N.R.;
RT   "The nucleotide and deduced amino acid sequences of insulin-like
RT   growth factor II cDNAs from adult bovine and fetal sheep liver.";
RL   Nucleic Acids Res. 18:4614-4614(1990).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Coopworth; TISSUE=Liver;
RX   MEDLINE=93250051; PubMed=8485157;
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RA   Demmer J., Hill D.F., Petersen G.B.;
RT   "Characterization of two sheep insulin-like growth factor II cDNAs
RT   with different 5'-untranslated regions.";
RL   Biochim. Biophys. Acta 1173:79-80(1993).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RA   Ohlsen S.M., Wong E.A.;
RL   Submitted (SEP-1990) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   SEQUENCE OF 25-91.
RX   MEDLINE=89136887; PubMed=2537174;
RA   Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT   "Sheep insulin-like growth factors I and II: sequences, activities
RT   and assays.";
RL   Endocrinology 124:1173-1183(1989).
RN   [6]
RP   SEQUENCE OF 25-58.
RX   MEDLINE=89323215; PubMed=2752053;
RA   Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT   "Simultaneous isolation of insulin-like growth factors I and II from
RT   adult sheep serum.";
RL   Biochim. Biophys. Acta 997:27-35(1989).
CC   -!- FUNCTION: The insulin-like growth factors possess growth-promoting
CC       activity. In vitro, they are potent mitogens for cultured cells.
CC       IGF-II is influenced by placental lactogen and may play a role in
CC       fetal development.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the insulin family.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U00668; AAB60626.1; -.
DR   EMBL; U00666; AAB60626.1; JOINED.
DR   EMBL; U00667; AAB60626.1; JOINED.
DR   EMBL; X15248; CAA33324.1; -.
DR   EMBL; X53554; CAA37621.1; -.
DR   EMBL; M89788; AAA31548.1; -.
DR   EMBL; M89789; AAA31549.1; -.
DR   EMBL; X55638; CAA39163.1; -.
DR   PIR; S04858; S04858.
DR   HSSP; P01344; 1GF2.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Mitogen; Growth factor; Signal.
FT   SIGNAL        1     24
FT   CHAIN        25     91       INSULIN-LIKE GROWTH FACTOR II.
FT   DOMAIN       25     52       B.
FT   DOMAIN       53     64       C.
FT   DOMAIN       65     85       A.
FT   DOMAIN       86     91       D.
FT   PROPEP       92    179       E PEPTIDE.
FT   DISULFID     33     71       BY SIMILARITY.
FT   DISULFID     45     84       BY SIMILARITY.
FT   DISULFID     70     75       BY SIMILARITY.
FT   CONFLICT     46     47       GD -> DG (IN REF. 5).
SQ   SEQUENCE   179 AA;  19616 MW;  7B369AE57F2E4378 CRC64;

  Query Match             10.5%;  Score 9;  DB 1;  Length 179;
  Best Local Similarity   100.0%;  Pred. No. 0.033;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 ECCFRSCDL 29
              |||||||||
Db         69 ECCFRSCDL 77


Search completed: March  3, 2004, 12:01:46
Job time : 15 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 3, 2004, 11:59:30 ; Search time 20 Seconds
(without alignments)
413.624 Million cell updates/sec

Title: US-09-852-261-4_COPY_26_111
Perfect score: 86
Sequence: 1 NKPTVYGSSIRRAPQTGIVD.....THKKRKLQRRRKGSTLEEHK 86

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 283366 seqs, 96191526 residues

Word size : 0

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	81	94.2	133	2	A40912	insulin-like growt
2	56	65.1	127	2	B40912	insulin-like growt
3	47	54.7	159	2	A26859	insulin-like growt
4	40	46.5	181	2	A27804	insulin-like growt
5	31	36.0	127	2	A25540	insulin-like growt
6	31	36.0	153	2	B27804	insulin-like growt
7	26	30.2	122	2	PN0622	insulin-like growt
8	26	30.2	137	1	IGGP1	insulin-like growt
9	26	30.2	137	2	A36552	insulin-like growt
10	26	30.2	138	2	S22878	insulin-like growt
11	26	30.2	153	1	IGHU1	insulin-like growt
12	26	30.2	153	1	IGBO1	insulin-like growt
13	26	30.2	153	2	S12825	insulin-like growt
14	26	30.2	154	2	JC2483	insulin-like growt
15	26	30.2	154	2	A33390	insulin-like growt
16	26	30.2	195	1	IGHU1B	insulin-like growt
17	11	12.8	153	2	A41399	insulin-like growt
18	10	11.6	153	2	A36079	insulin-like growt
19	9	10.5	93	2	I53642	insulin-like growt
20	9	10.5	128	2	I57671	insulin-like growt
21	9	10.5	149	2	D54270	insulin-like growt
22	9	10.5	155	1	IGBO2	insulin-like growt
23	9	10.5	155	2	C44012	insulin-like growt
24	9	10.5	161	2	C54270	insulin-like growt
25	9	10.5	176	2	A41396	insulin-like growt
26	9	10.5	176	2	A46244	insulin-like growt
27	9	10.5	179	2	S04858	insulin-like growt
28	9	10.5	180	1	IGHU2	insulin-like growt
29	9	10.5	180	1	IGRT2	insulin-like growt
30	9	10.5	180	2	A24913	insulin-like growt
31	9	10.5	181	2	B60738	insulin-like growt
32	9	10.5	183	2	S02423	insulin-like growt
33	9	10.5	183	2	I67610	insulin-like growt
34	9	10.5	187	2	T10897	insulin-like growt
35	9	10.5	188	2	A54270	insulin-like growt
36	9	10.5	188	2	B54270	insulin-like growt
37	9	10.5	210	2	S66484	insulin-like growt
38	9	10.5	214	2	B46244	insulin-like growt
39	8	9.3	44	2	A34049	insulin-like growt
40	8	9.3	79	2	I51240	insulin-like growt
41	8	9.3	1785	2	T22595	hypothetical prote
42	7	8.1	19	2	A21182	4K prothoracicotro
43	7	8.1	82	2	S69480	bombyxin A-10 prec
44	7	8.1	87	2	S69490	bombyxin B-10 prec
45	7	8.1	87	2	JQ0836	bombyxin B-10 - si
46	7	8.1	88	2	S69489	bombyxin B-8 precu
47	7	8.1	89	1	IPMTA2	bombyxin A-2 precu
48	7	8.1	89	2	S69484	bombyxin A-8 precu
49	7	8.1	89	2	S69483	bombyxin A-8 precu
50	7	8.1	90	1	IPMTB1	bombyxin B-1 precu
51	7	8.1	90	1	IPMTB2	bombyxin B-2 precu
52	7	8.1	90	2	S69486	bombyxin B-6 precu
53	7	8.1	90	2	S69487	bombyxin B-7 precu
54	7	8.1	90	2	S69488	bombyxin B-7 precu
55	7	8.1	90	2	S69491	bombyxin B-3 precu
56	7	8.1	90	2	S69495	bombyxin B-9 precu
57	7	8.1	90	2	S69485	bombyxin B-4 precu
58	7	8.1	90	2	JQ0835	bombyxin B-5 precu
59	7	8.1	91	2	A60296	bombyxin C-1 precu
60	7	8.1	92	1	IPMTA3	bombyxin A-3 precu
61	7	8.1	92	2	S69478	bombyxin A-6 precu
62	7	8.1	92	2	S69477	bombyxin A-4 precu
63	7	8.1	92	2	A48322	bombyxin A-1 precu
64	7	8.1	92	2	S69482	bombyxin A-7 precu
65	7	8.1	92	2	S69481	bombyxin A-7 precu
66	7	8.1	92	2	S69479	bombyxin A-5 precu
67	7	8.1	92	2	JQ0825	bombyxin A-9 precu
68	7	8.1	93	2	S69496	bombyxin B-11 prec
69	7	8.1	95	2	S69498	bombyxin C-2 precu
70	7	8.1	152	2	T03173	gelatinase homolog
71	7	8.1	226	2	F75307	hypothetical prote
72	7	8.1	364	2	T46926	hypothetical prote
73	7	8.1	429	2	H90157	aspartyl-tRNA synt
74	7	8.1	557	2	I50429	transforming growt
75	7	8.1	566	2	T23926	hypothetical prote
76	7	8.1	697	2	A26132	gag-abl-pol polypr
77	7	8.1	1070	2	JC4593	protein-tyrosine k
78	7	8.1	1130	1	TVHUA	protein-tyrosine k
79	7	8.1	1146	2	B35962	protein-tyrosine k
80	7	8.1	1182	2	A35962	protein-tyrosine k
81	7	8.1	2285	1	G02434	DNA-directed DNA p
82	6	7.0	66	2	A60740	insulin-like growt
83	6	7.0	85	2	S52155	male germ-line spe
84	6	7.0	90	2	S69492	bombyxin B-12 prec
85	6	7.0	91	2	C90116	60S ribosomal prot
86	6	7.0	100	2	T50611	hypothetical prote
87	6	7.0	102	2	S31176	SPT4 protein - yea
88	6	7.0	110	2	S52157	protamine - fruit
89	6	7.0	118	2	F84263	transcription repr
90	6	7.0	120	2	AG3195	conserved hypothet
91	6	7.0	126	2	AB2330	30S ribosomal prot
92	6	7.0	126	2	T25764	hypothetical prote
93	6	7.0	135	2	S52552	thionin variant Th
94	6	7.0	135	2	S52555	thionin variant Th
95	6	7.0	142	2	T01576	photosystem I prot
96	6	7.0	144	2	F84988	50S ribosomal prot
97	6	7.0	156	2	A83079	hypothetical prote
98	6	7.0	156	2	G97987	conserved hypothet
99	6	7.0	174	2	G84600	hypothetical prote
100	6	7.0	179	2	B84587	probable glutaredo

ALIGNMENTS

RESULT 1
A40912
insulin-like growth factor I precursor form 1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: A40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu
c tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: A40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-133 <ROB>
A;Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C;Superfamily: insulin

Query Match 94.2%; Score 81; DB 2; Length 133;
Best Local Similarity 100.0%; Pred. No. 4.1e-75;
Matches 81; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQKSQPL 65
Db 53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQKSQPL 112

Qy 66 STHKKRKLQRRRKGSTLEEHK 86
Db 113 STHKKRKLQRRRKGSTLEEHK 133

RESULT 2
B40912
insulin-like growth factor I precursor form 2 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: B40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu
c tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: B40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-127 <ROB>
A;Cross-references: GB:M15481; NID:g204753; PIDN:AAA41387.1; PID:g204754
C;Superfamily: insulin

Query Match 65.1%; Score 56; DB 2; Length 127;
Best Local Similarity 100.0%; Pred. No. 1.2e-49;
Matches 56; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQK 61
Db 53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQK 108

RESULT 3
A26859
insulin-like growth factor IB precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C;Accession: A26859
R;Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A;Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5'
A;Reference number: A26859; MUID:88015572; PMID:3658684
A;Accession: A26859
A;Molecule type: mRNA
A;Residues: 1-159 <SHI>
A;Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID:
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor

Query Match 54.7%; Score 47; DB 2; Length 159;
Best Local Similarity 100.0%; Pred. No. 2.1e-40;
Matches 47; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 40 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 86
Db 113 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 159

RESULT 4
A27804
insulin-like growth factor I precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C;Accession: A27804; I65202
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: A27804
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-181 <SHI>
A;Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R;Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A;Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A;Reference number: I52218; MUID:87298553; PMID:3619921
A;Accession: I65202
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-27 <RES>
A;Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C;Superfamily: insulin
C;Keywords: alternative splicing

Query Match 46.5%; Score 40; DB 2; Length 181;
Best Local Similarity 100.0%; Pred. No. 3.1e-33;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 40 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 79
Db 113 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 152

RESULT 5
A25540
insulin-like growth factor IA precursor - mouse
N;Alternate names: IGF-IA; somatomedin C
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999
C;Accession: A25540; I55295; I59090; B25540
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.
Nucleic Acids Res. 14, 7873-7882, 1986
A;Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth fa
A;Reference number: A93643; MUID:87040760; PMID:3774549
A;Accession: A25540
A;Molecule type: mRNA
A;Residues: 1-127 <BEL>
A;Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802
R;Tollefsen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.
J. Biol. Chem. 264, 13810-13817, 1989
A;Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I
A;Reference number: I55295; MUID:89340472; PMID:2474537
A;Accession: I55295
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RES>

```
A;Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489
R;Mathews, L.S.; Norstedt, G.; Palmiter, R.D.
Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986
A;Title: Regulation of insulin-like growth factor I gene expression by growth hormone.
A;Reference number: I59090; MUID:87092249; PMID:3467309
A;Accession: I59090
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RE2>
A;Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496
C;Genetics:
A;Gene: igf1
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F;23-51/Domain: insulin chain B-like #status predicted <DOB>
F;52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F;64-84/Domain: insulin chain A-like #status predicted <DOA>
F;85-92/Domain: D peptide #status predicted <DOD>
F;93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

  Query Match             36.0%;  Score 31;  DB 2;  Length 127;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83


RESULT 6
B27804
insulin-like growth factor IA precursor - rat
N;Alternate names: IGF-IA; somatomedin C
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000
C;Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, an
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: B27804
A;Molecule type: DNA
A;Residues: 1-153 <SHI>
A;Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300
R;Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund
DNA 6, 325-330, 1987
A;Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precurso
A;Reference number: A27849; MUID:88003970; PMID:3652906
A;Accession: A27849
A;Molecule type: mRNA
A;Residues: 27-153 <CAS>
A;Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
R;Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
Agric. Biol. Chem. 54, 1599-1601, 1990
A;Title: A new cDNA clone relating to larger molecular species of rat insulin-like growt
A;Reference number: JH0133; MUID:91103966; PMID:1368571
A;Accession: JH0133
A;Molecule type: mRNA
A;Residues: 27-153 <KAT>
A;Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
A;Experimental source: liver
R;Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
Endocrinology 121, 684-691, 1987
A;Title: Identification, characterization, and regulation of a rat complementary deoxyri
A;Reference number: A28504; MUID:87246437; PMID:3595538
A;Accession: A28504
A;Molecule type: mRNA
A;Residues: 46-153 <MUR>
A;Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
R;Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
Agric. Biol. Chem. 54, 2225-2230, 1990
A;Title: Evidence of introduction by molecular cloning of artificial inverted sequence at
A;Reference number: JN0088; MUID:91136779; PMID:1368576
A;Accession: JN0088
A;Molecule type: mRNA
A;Residues: 'MSAPP',22-153 <KA2>
A;Experimental source: liver
A;Note: the authors present evidence that this mRNA may contain an artifactual inversion
R;Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.
J. Biol. Chem. 264, 5616-5621, 1989
A;Title: Primary structure of rat insulin-like growth factor-I and its biological activit
A;Reference number: A32857; MUID:89174609; PMID:2538424
A;Accession: A32857
A;Molecule type: protein
A;Residues: 49-118 <TAM>
R;Canalis, E.; McCarthy, T.; Centrella, M.
Endocrinology 122, 22-27, 1988
A;Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C) i
A;Reference number: A61096; MUID:88082445; PMID:3335205
A;Accession: A61096
A;Molecule type: protein
A;Residues: 49-53,'X',55-65 <CAN>
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;49-118/Product: insulin-like growth factor I #status experimental <ILG>

  Query Match             36.0%;  Score 31;  DB 2;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 4e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         79 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 7
PN0622
insulin-like growth factor Ia precursor - dog (fragment)
C;Species: Canis lupus familiaris (dog)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C;Accession: PN0622
R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A;Reference number: PN0622; MUID:93366192; PMID:8359700
A;Accession: PN0622
A;Molecule type: mRNA
A;Residues: 1-122 <DEL>
C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, acti
C;Genetics:
A;Gene: IGFIa
C;Superfamily: insulin
C;Keywords: growth factor
F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

  Query Match             30.2%;  Score 26;  DB 2;  Length 122;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         55 RRAPQTGIVDECCFRSCDLRRLEMYC 80


RESULT 8
IGGP1
insulin-like growth factor I precursor - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C;Accession: S12719
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A;Title: Sequence of a cDNA encoding guinea pig IGF-I.
A;Reference number: S12719; MUID:90332447; PMID:2377480
```

A;Accession: S12719
A;Molecule type: mRNA
A;Residues: 1-137 <BEL>
A;Cross-references: EMBL:X52951
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
C;Superfamily: insulin
C;Keywords: glycoprotein; growth factor; plasma
F;1-32/Domain: signal sequence #status predicted <SIG>
F;33-102/Product: insulin-like growth factor I #status predicted <MAT>
F;33-61/Domain: insulin chain B-like #status predicted <CHB>
F;62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;74-94/Domain: insulin chain A-like #status predicted <CHA>
F;95-102/Domain: D peptide #status predicted <CHD>
F;103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F;124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 30.2%; Score 26; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 4.5e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 68 RRAPQTGIVDECCFRSCDLRRLEMYC 93

RESULT 9
A36552
insulin-like growth factor 1a precursor - human
C;Species: Homo sapiens (man)
C;Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C;Accession: A36552
R;Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990
A;Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal
A;Reference number: A36552; MUID:91187000; PMID:2082190
A;Accession: A36552
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-137 <TOB>
A;Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
C;Superfamily: insulin

Query Match 30.2%; Score 26; DB 2; Length 137;
Best Local Similarity 100.0%; Pred. No. 4.5e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 68 RRAPQTGIVDECCFRSCDLRRLEMYC 93

RESULT 10
S22878
insulin-like growth factor I precursor, splice form 2 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
C;Accession: S22878; S07198
R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and i
A;Reference number: S22877; MUID:91197361; PMID:2015053
A;Accession: S22878
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-138 <DIC>
A;Cross-references: EMBL:X51358
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S07198
A;Molecule type: protein
A;Residues: 34-103 <FRA>
A;Experimental source: fetal plasma
C;Genetics:
A;Introns: 5/3; 59/1; 119/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;7-33/Domain: propeptide #status predicted <PRO>
F;34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F;34-62/Domain: insulin chain B-like #status predicted <DOB>
F;63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F;75-95/Domain: insulin chain A-like #status predicted <DOA>
F;96-103/Domain: peptide D #status predicted <CHD>
F;104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 30.2%; Score 26; DB 2; Length 138;
Best Local Similarity 100.0%; Pred. No. 4.5e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 69 RRAPQTGIVDECCFRSCDLRRLEMYC 94

RESULT 11
IGHU1
insulin-like growth factor I precursor, splice form A [validated] - human
N;Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A92581; A23614; A93321; JT0571; A23622; A92226; A60483; S30519; A48960; I
R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alt
A;Reference number: A92581; MUID:86168194; PMID:2937782
A;Accession: A92581
A;Molecule type: DNA
A;Residues: 1-153 <ROT>
A;Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110
R;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bou
FEBS Lett. 195, 179-184, 1986
A;Title: Organization of the human genes for insulin-like growth factors I and II.
A;Reference number: A91356; MUID:86108862; PMID:3002851
A;Accession: A23614
A;Molecule type: DNA
A;Residues: 24-153 <DEP>
A;Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB
R;Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H
Nature 306, 609-611, 1983
A;Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A;Reference number: A93321; MUID:84068210; PMID:6358902
A;Accession: A93321
A;Molecule type: mRNA
A;Residues: 1-153 <JAN>
A;Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A;Note: Met-24 is proposed as a likely initiator
R;Steenbergh, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A;Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A;Reference number: JT0571; MUID:91207342; PMID:2018498
A;Accession: JT0571
A;Molecule type: mRNA
A;Residues: 1-153 <STE>
A;Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R;Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A;Title: Complete characterization of the human IGF-I nucleotide sequence isolated fro
A;Reference number: A23622; MUID:86108910; PMID:2935423
A;Accession: A23622
A;Molecule type: mRNA
A;Residues: 1-153 <LEB>
A;Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
R;Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978

A;Title: The amino acid sequence of human insulin-like growth factor I and its structura
A;Reference number: A92226; MUID:78130171; PMID:632300
A;Accession: A92226
A;Molecule type: protein
A;Residues: 49-118 <RIN>
R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I
A;Reference number: A60483; MUID:89323462; PMID:2752153
A;Accession: A60483
A;Molecule type: protein
A;Residues: 49-53,'X',55-65,'X',67-75 <KAR>
A;Experimental source: platelet lysate
R;Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1a.
A;Reference number: S30519
A;Accession: S30519
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-153 <NOR>
A;Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: A48960
A;Molecule type: mRNA
A;Residues: 1-123,'E',125-132,'E',134-153 <SAN>
A;Cross-references: GB:X56773; GB:S61841; NID:g32989
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
A;Note: sequence inconsistent with the nucleotide translation
R;Rall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complemen
A;Reference number: I57044; MUID:88065102; PMID:3683205
A;Accession: I57044
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 24-153 <RAL>
A;Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and f
C;Comment: For an alternative splice form, see PIR:IGHU1B.
C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
F;49-77/Domain: insulin chain B-like #status experimental <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin chain A-like #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 30.2%; Score 26; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 84 RRAPQTGIVDECCFRSCDLRRLEMYC 109

RESULT 12
IGBO1
insulin-like growth factor IA precursor - bovine (fragment)
N;Alternate names: IGF-I; somatomedin C
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C;Accession: S12672; A25623; S00465
R;Fotsis, T.; Murphy, C.; Gannon, F.
Nucleic Acids Res. 18, 676, 1990
A;Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and its
A;Reference number: S12672; MUID:90175014; PMID:2308858
A;Accession: S12672
A;Molecule type: mRNA
A;Residues: 1-153 <FOT>
A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
A;Experimental source: liver
R;Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purificati
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: A25623
A;Molecule type: protein
A;Residues: 49-118 <HON>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biologica
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00465
A;Molecule type: protein
A;Residues: 49-118 <FRA>
A;Experimental source: colostrum
A;Note: a form of IGF-I lacking the first three residues and possessing enhanced biologic
C;Superfamily: insulin
C;Keywords: alternative splicing; colostrum; growth factor; plasma
F;1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
F;49-77/Domain: insulin B chain-like #status experimental <DOB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin A chain-like #status experimental <DOA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 30.2%; Score 26; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 84 RRAPQTGIVDECCFRSCDLRRLEMYC 109

RESULT 13
S12825
insulin-like growth factor I precursor - pig
N;Alternate names: somatomedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S12825; S21488; A34938; A60738
R;Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated re
A;Reference number: S12825; MUID:90221822; PMID:2326169
A;Accession: S12825
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-153 <MUE>
A;Cross-references: EMBL:X52388
R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-codi
A;Reference number: S21488
A;Accession: S21488
A;Molecule type: DNA
A;Residues: 1-21 <DIC>

A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic a
es.
A;Reference number: A34938; MUID:89096956; PMID:3211153
A;Accession: A34938
A;Molecule type: mRNA
A;Residues: 'Y',21-153 <TAV>
A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insu
A;Reference number: A60738; MUID:90039035; PMID:2809477
A;Accession: A60738
A;Molecule type: protein
A;Residues: 49-117,'X' <FRA>
C;Genetics:
A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 30.2%; Score 26; DB 2; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 84 RRAPQTGIVDECCFRSCDLRRLEMYC 109

RESULT 14
JC2483
insulin-like growth factor-I precursor - goat
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: JC2483
R;Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A;Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF
A;Reference number: JC2483; MUID:95201385; PMID:7765981
A;Accession: JC2483
A;Molecule type: mRNA
A;Residues: 1-154 <MIK>
A;Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118; DDBJ:D26119
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
F;1-49/Domain: signal sequence #status predicted <SIG>
F;50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F;120-154/Region: E domain

Query Match 30.2%; Score 26; DB 2; Length 154;
Best Local Similarity 100.0%; Pred. No. 4.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 85 RRAPQTGIVDECCFRSCDLRRLEMYC 110

RESULT 15
A33390
insulin-like growth factor I precursor, splice form 1 - sheep
N;Alternate names: somatomedin C
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999
C;Accession: S22877; A33390; S07965; S07198
R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and
A;Reference number: S22877; MUID:91197361; PMID:2015053
A;Accession: S22877
A;Molecule type: DNA
A;Residues: 1-154 <DIC>
A;Cross-references: EMBL:X51358
R;Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.
DNA 8, 649-657, 1989
A;Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mR
A;Reference number: A33390; MUID:90126234; PMID:2575490
A;Accession: A33390
A;Molecule type: mRNA
A;Residues: 1-43,'SS',46-154 <WON>
A;Cross-references: GB:M30653; NID:g165929; PIDN:AAA80532.1; PID:g165930
R;Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
Biochim. Biophys. Acta 997, 27-35, 1989
A;Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh
A;Reference number: S04972; MUID:89323215; PMID:2752053
A;Accession: S07965
A;Molecule type: protein
A;Residues: 50-79 <HEY>
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S07198
A;Molecule type: protein
A;Residues: 50-119 <FRA>
A;Experimental source: fetal plasma
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-49/Domain: propeptide #status predicted <PRO>
F;50-119/Product: insulin-like growth factor I (active) #status experimental <MAT>
F;50-78/Domain: insulin chain B-like #status predicted <DOB>
F;79-90/Domain: insulin connecting peptide-like #status predicted <CHC>
F;91-111/Domain: insulin chain A-like #status predicted <DOA>
F;112-119/Domain: peptide D #status predicted <CHD>
F;120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;55-97,67-110,96-101/Disulfide bonds: #status predicted

Query Match 30.2%; Score 26; DB 2; Length 154;
Best Local Similarity 100.0%; Pred. No. 4.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 85 RRAPQTGIVDECCFRSCDLRRLEMYC 110

RESULT 16
IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N;Alternate names: IGF-IB; somatomedin C
N;Contains: insulin-like growth factor IB-E1 amide
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A01611; A26181; S30540; B48960; A42664
R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A;Title: Organization and sequence of the human insulin-like growth factor I gene. Al
A;Reference number: A92581; MUID:86168194; PMID:2937782
A;Accession: A01611
A;Molecule type: DNA
A;Residues: 1-195 <ROT1>
A;Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R;Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A;Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
A;Reference number: A26181; MUID:86094355; PMID:3455760
A;Accession: A26181

```
A;Molecule type: mRNA
A;Residues: 1-195 <ROT2>
A;Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R;Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1b.
A;Reference number: S30540
A;Accession: S30540
A;Molecule type: mRNA
A;Residues: 1-195 <SAN>
A;Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: B48960
A;Molecule type: mRNA
A;Residues: 1-195 <SA2>
A;Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence modified after extraction from NCBI backbone
A;Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A;Note: sequence extracted from NCBI backbone (NCBIN:133058)
R;Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A;Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-li
A;Reference number: A42664; MUID:92390398; PMID:1325646
A;Contents: annotation; IBE-1; amidated carboxyl end
C;Comment: For an alternative splice form, see PIR:IGHU1.
C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status predicted <MAT>
F;49-77/Domain: insulin chain B-like #status predicted <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;90-110/Domain: insulin chain A-like #status predicted <CHA>
F;111-118/Domain: D peptide #status predicted <CHD>
F;119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F;151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted
F;172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

  Query Match             30.2%;  Score 26;  DB 1;  Length 195;
  Best Local Similarity   100.0%;  Pred. No. 6e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 17
A41399
insulin-like growth factor IA precursor - chicken
C;Species: Gallus gallus (chicken)
C;Date: 03-Apr-1992 #sequence_revision 03-Apr-1992 #text_change 16-Jul-1999
C;Accession: A41399; A61092; A40012; B60853; A37415
R;Kajimoto, Y.; Rotwein, P.
Mol. Endocrinol. 3, 1907-1913, 1989
A;Title: Structure and expression of a chicken insulin-like growth factor I precursor.
A;Reference number: A41399; MUID:90190648; PMID:2628728
A;Accession: A41399
A;Molecule type: mRNA
A;Residues: 1-153 <KAJ>
A;Cross-references: GB:M32791; NID:g211950; PIDN:AAA48828.1; PID:g211951
R;Fawcett, D.H.; Bulfield, G.
J. Mol. Endocrinol. 4, 201-211, 1990
A;Title: Molecular cloning, sequence analysis and expression of putative chicken insulin-
A;Reference number: A61092; MUID:90334699; PMID:2378674
A;Accession: A61092
A;Status: not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-153 <FAW>
R;Kajimoto, Y.; Rotwein, P.
J. Biol. Chem. 266, 9724-9731, 1991
A;Title: Structure of the chicken insulin-like growth factor I gene reveals conserved pro
A;Reference number: A40012; MUID:91236750; PMID:2033062
A;Accession: A40012
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-21 <KA2>
A;Cross-references: GB:M74176; NID:g211952; PIDN:AAA48829.1; PID:g211953
R;Dawe, S.R.; Francis, G.L.; McNamara, P.J.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 117, 173-181, 1988
A;Title: Purification, partial sequences and properties of chicken insulin-like growth fa
A;Reference number: A60853; MUID:88244560; PMID:3379351
A;Accession: B60853
A;Molecule type: protein
A;Residues: 49-79 <DAW>
R;Ballard, F.J.; Johnson, R.J.; Owens, P.C.; Francis, G.L.; Upton, F.M.; McMurtry, J.P.;
Gen. Comp. Endocrinol. 79, 459-468, 1990
A;Title: Chicken insulin-like growth factor-I: amino acid sequence, radioimmunoassay, and
A;Reference number: A37415; MUID:91106695; PMID:2272467
A;Accession: A37415
A;Status: preliminary
A;Molecule type: protein
A;Residues: 49-118 <BAL>
C;Superfamily: insulin
C;Keywords: growth factor
F;49-77,90-110/Product: insulin-like growth factor IA #status experimental <MAT>
F;49-77/Domain: insulin-like growth factor IA B chain #status predicted <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CPE>
F;90-110/Domain: insulin-like growth factor IA A chain #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <MAA>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

  Query Match             12.8%;  Score 11;  DB 2;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 0.00094;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         26 SCDLRRLEMYC 36
              ||||||||||||
Db         99 SCDLRRLEMYC 109


RESULT 18
A36079
insulin-like growth factor I'' precursor - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 30-Nov-1990 #sequence_revision 30-Nov-1990 #text_change 16-Jul-1999
C;Accession: A36079; B34049
R;Kajimoto, Y.; Rotwein, P.
Mol. Endocrinol. 4, 217-226, 1990
A;Title: Evolution of insulin-like growth factor I (IGF-I): structure and expression of
A;Reference number: A36079; MUID:90231335; PMID:2330002
A;Accession: A36079
A;Molecule type: mRNA
A;Residues: 1-153 <KAJ>
A;Cross-references: GB:M29857; NID:g214287; PIDN:AAA70330.1; PID:g214288
R;Shuldiner, A.R.; Nirula, A.; Scott, L.A.; Roth, J.
Biochem. Biophys. Res. Commun. 166, 223-230, 1990
A;Title: Evidence that Xenopus laevis contains two different nonallelic insulin-like gro
A;Reference number: A90158; MUID:90147704; PMID:2302204
A;Accession: B34049
A;Molecule type: DNA
A;Residues: 82-85,'A',87-125 <SH2>
C;Genetics:
A;Gene: IGF-I''
C;Superfamily: insulin
C;Keywords: growth factor
```

Query Match 11.6%; Score 10; DB 2; Length 153;
Best Local Similarity 100.0%; Pred. No. 0.0098;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 49 RAQRHTDMPK 58
||||||||||
Db 122 RAQRHTDMPK 131

RESULT 19
I53642
insulin-like growth factor II precursor - horse (fragment)
C;Species: Equus caballus (domestic horse)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 16-Jul-1999
C;Accession: I53642
R;Otte, K.; Engstrom, W.
Gen. Comp. Endocrinol. 96, 270-275, 1994
A;Title: Insulin-like growth factor II in the horse: determination of a cDNA nucleotide
A;Reference number: I53642; MUID:95154655; PMID:7851727
A;Accession: I53642
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-93 <OTT>
A;Cross-references: EMBL:U11241; NID:g508703; PIDN:AAA73915.1; PID:g508704
C;Genetics:
A;Gene: IGF-II
C;Superfamily: insulin

Query Match 10.5%; Score 9; DB 2; Length 93;
Best Local Similarity 100.0%; Pred. No. 0.068;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 21 ECCFRSCDL 29
|||||||||
Db 45 ECCFRSCDL 53

RESULT 20
I57671
insulin-like growth factor II - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I57671
R;Levinovitz, A.; Norstedt, G.; van den Berg, S.; Robinson, I.C.; Ekstrom, T.J.
Mol. Cell. Endocrinol. 89, 105-110, 1992
A;Title: Isolation of an insulin-like growth factor II cDNA from guinea pig liver: expre
A;Reference number: I57671; MUID:93246007; PMID:1301379
A;Accession: I57671
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-128 <RES>
A;Cross-references: GB:S59899; NID:g300070; PIDN:AAB26479.1; PID:g300071
C;Superfamily: insulin

Query Match 10.5%; Score 9; DB 2; Length 128;
Best Local Similarity 100.0%; Pred. No. 0.088;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 21 ECCFRSCDL 29
|||||||||
Db 69 ECCFRSCDL 77

RESULT 21
D54270
insulin-like growth factor-I precursor (clone OtIGFI-0) - chinook salmon
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 16-Jul-1999
C;Accession: D54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spli
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: D54270
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-149 <WAL>
A;Cross-references: GB:U15962; GB:S59515; NID:g559010; PIDN:AAA67268.1; PID:g559011
A;Note: sequence extracted from NCBI backbone (NCBIN:130890, NCBIP:130894)
C;Superfamily: insulin

Query Match 10.5%; Score 9; DB 2; Length 149;
Best Local Similarity 100.0%; Pred. No. 0.1;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 49 RAQRHTDMP 57
|||||||||
Db 118 RAQRHTDMP 126

RESULT 22
IGBO2
insulin-like growth factor II precursor - bovine
N;Alternate names: IGF-II
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1988 #sequence_revision 22-Apr-1995 #text_change 23-Mar-2001
C;Accession: S10983; S37617; B25623; A34645; S00466; A57470
R;Brown, W.M.; Dziegielewska, K.M.; Foreman, R.C.; Saunders, N.R.
Nucleic Acids Res. 18, 4614, 1990
A;Title: The nucleotide and deduced amino acid sequences of insulin-like growth facto
A;Reference number: S10983; MUID:90356421; PMID:2388846
A;Accession: S10983
A;Molecule type: mRNA
A;Residues: 6-155 <BR2>
A;Cross-references: EMBL:X53553; NID:g459; PIDN:CAA37620.1; PID:g1364191
A;Experimental source: liver
R;Congote, L.F.; Mazza, L.; Palfree, R.G.E.
Comp. Biochem. Physiol. B 103, 127-131, 1992
A;Title: Nucleotide sequence of the central coding region of bovine erythrotropin/ins
time of hepatic erythropoiesis.
A;Reference number: S37617; MUID:93083057; PMID:1280544
A;Accession: S37617
A;Molecule type: mRNA
A;Residues: 6-62 <CON>
A;Cross-references: EMBL:X53867; NID:g461; PIDN:CAA37861.1; PID:g930004
A;Experimental source: fetal intestine
R;Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: B25623
A;Molecule type: protein
A;Residues: 1-34,'S',36-67 <HON>
R;Li, Q.; Blacher, R.; Esch, F.; Congote, L.F.
Biochem. Biophys. Res. Commun. 166, 557-561, 1990
A;Title: A heparin-binding erythroid cell stimulating factor from fetal bovine serum
A;Reference number: A34645; MUID:90147754; PMID:2302223
A;Accession: A34645
A;Molecule type: protein
A;Residues: 1-8,'X',10-20,'X',22-31 <LIQ>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biol
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00466
A;Molecule type: protein
A;Residues: 1-67 <FRA>
R;Valenzano, K.J.; Remmler, J.; Lobel, P.
J. Biol. Chem. 270, 16441-16448, 1995
A;Title: Soluble insulin-like growth factor II/mannose 6-phosphate receptor carries
A;Reference number: A57470; MUID:95332360; PMID:7608216
A;Accession: A57470
A;Status: preliminary
A;Molecule type: protein
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C;Keywords: colostrum; growth factor; heparin binding; mitogen; plasma
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F;28-40/Domain: insulin connecting C peptide-like #status experimental <CPE>
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Db         45 ECCFRSCDL 53


RESULT 23
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C;Species: Oncorhynchus kisutch (coho salmon)
C;Date: 27-Apr-1993 #sequence_revision 27-Apr-1993 #text_change 16-Jul-1999
C;Accession: C44012; A44012; B44012
R;Duguay, S.J.; Park, L.K.; Samadpour, M.; Dickhoff, W.W.
Mol. Endocrinol. 6, 1202-1210, 1992
A;Title: Nucleotide sequence and tissue distribution of three insulin-like growth factor
A;Reference number: A44012; MUID:93024477; PMID:1406698
A;Accession: C44012
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-155 <DUG>
A;Cross-references: GB:M81913; NID:g213442; PIDN:AAA49413.1; PID:g213443
A;Note: sequence extracted from NCBI backbone (NCBIP:115177)
C;Genetics:
A;Gene: IGF-I
C;Superfamily: insulin
C;Keywords: growth factor

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Db         92 RAQRHTDMP 100


RESULT 24
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C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1994 #sequence_revision 25-Apr-1997 #text_change 16-Jul-1999
C;Accession: C54270
R;Wallis, A.E.; Devlin, R.H.
Mol. Endocrinol. 7, 409-422, 1993
A;Title: Duplicate insulin-like growth factor-I genes in salmon display alternative spli
A;Reference number: A54270; MUID:93247592; PMID:7683374
A;Accession: C54270
A;Status: preliminary
A;Molecule type: mRNA
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A;Note: sequence extracted from NCBI backbone (NCBIN:130889, NCBIP:130893)
C;Superfamily: insulin

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RESULT 25
A41396
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N;Contains: insulin-like growth factor I, splice form 1
C;Species: Oncorhynchus kisutch (coho salmon)
C;Date: 03-Apr-1992 #sequence_revision 03-Apr-1992 #text_change 21-Jul-2000
C;Accession: A41396; I51255; A44012; B44012
R;Cao, Q.P.; Duguay, S.J.; Plisetskaya, E.; Steiner, D.F.; Chan, S.J.
Mol. Endocrinol. 3, 2005-2010, 1989
A;Title: Nucleotide sequence and growth hormone-regulated expression of salmon insulin-l
A;Reference number: A41396; MUID:90190659; PMID:2628735
A;Accession: A41396
A;Status: preliminary
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A;Residues: 1-176 <CAO>
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R;Koval, A.; Kulik, V.; Duguay, S.; Plisetskaya, E.; Adamo, M.L.; Roberts, C.T.
DNA Cell Biol. 13, 1057-1062, 1994
A;Title: Characterization of a salmon insulin-like growth factor I promoter.
A;Reference number: I51255; MUID:95032736; PMID:7945938
A;Accession: I51255
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-5,'F',7-16 <KOV>
A;Cross-references: GB:S74130; NID:g707007; PIDN:AAD14148.1; PID:g4261848
R;Duguay, S.J.; Park, L.K.; Samadpour, M.; Dickhoff, W.W.
Mol. Endocrinol. 6, 1202-1210, 1992
A;Title: Nucleotide sequence and tissue distribution of three insulin-like growth factor
A;Reference number: A44012; MUID:93024477; PMID:1406698
A;Accession: A44012
A;Status: preliminary; not compared with conceptual translation
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A;Accession: B44012
A;Status: preliminary; not compared with conceptual translation
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A;Gene: IGF-I
C;Superfamily: insulin
C;Keywords: growth factor

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Qy         49 RAQRHTDMP 57
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Db        118 RAQRHTDMP 126


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GenCore version 5.1.6

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ALIGNMENTS

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; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-4

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RESULT 2
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;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
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;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-12

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Qy         61 K 61
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Db         86 K 86


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; Publication No. US20030077761A1
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;  APPLICANT: Parrow, Vendela
;  APPLICANT:  Rosengren, Linda
;  TITLE OF INVENTION: NEW METHODS
;  FILE REFERENCE: 13425-111001
;  CURRENT APPLICATION NUMBER: US/10/161,088
;  CURRENT FILING DATE:  2002-05-31
;  PRIOR APPLICATION NUMBER: SE 0101934-8
;  PRIOR FILING DATE: 2001-06-01
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US-10-161-088-2

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RESULT 4
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; Sequence 29, Application US/09848664
; Patent No. US20020146414A1
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;  APPLICANT: Sakiyama-Elbert, Shelly E.
;  APPLICANT:  Hubbell, Jeffrey A.
;  TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Grow
;  TITLE OF INVENTION:  Factors from Heparin Containing Matrices
;  FILE REFERENCE: ETH 108
;  CURRENT APPLICATION NUMBER: US/09/848,664
;  CURRENT FILING DATE:  2001-05-03
;  PRIOR APPLICATION NUMBER: 09/298,084
;  PRIOR FILING DATE: 1999-04-22
;  NUMBER OF SEQ ID NOS: 31
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 29
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-848-664-29

  Query Match             30.2%;  Score 26;  DB 9;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61
```

```
RESULT 5
US-09-848-664-30
; Sequence 30, Application US/09848664
; Patent No. US20020146414A1
; GENERAL INFORMATION:
;  APPLICANT: Sakiyama-Elbert, Shelly E.
;  APPLICANT:  Hubbell, Jeffrey A.
;  TITLE OF INVENTION: Controlled Release of No. US20020146414A1-Heparin Binding Growth
;  TITLE OF INVENTION:  Factors from Heparin Containing Matrices
;  FILE REFERENCE: ETH 108
;  CURRENT APPLICATION NUMBER: US/09/848,664
;  CURRENT FILING DATE:  2001-05-03
;  PRIOR APPLICATION NUMBER: 09/298,084
;  PRIOR FILING DATE: 1999-04-22
;  NUMBER OF SEQ ID NOS: 31
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 30
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-848-664-30

  Query Match             30.2%;  Score 26;  DB 9;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 6
US-09-903-327A-8
; Sequence 8, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
;  APPLICANT: Nemerow, Glen R.
;  APPLICANT:  Li, Erguang
;  TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
;  TITLE OF INVENTION:  GENE
;  TITLE OF INVENTION:  DELIVERY
;  FILE REFERENCE: 22908-1228
;  CURRENT APPLICATION NUMBER: US/09/903,327A
;  CURRENT FILING DATE:  2001-07-10
;  PRIOR APPLICATION NUMBER: 09/613,017
;  PRIOR FILING DATE: 2000-07-10
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Human
;   FEATURE:
;   NAME/KEY: PEPTIDE
;   LOCATION: (0)...(0)
;   OTHER INFORMATION: Human Insulin-like Growth Factor 1 sequence
;   OTHER INFORMATION: (IGF-1, mature peptide)
US-09-903-327A-8

  Query Match             30.2%;  Score 26;  DB 9;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 7
US-09-858-935B-3
; Sequence 3, Application US/09858935B
; Publication No. US20030069177A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Filvaroff, Ellen
;  APPLICANT:  Lowman, Henry B.
;  TITLE OF INVENTION: METHOD FOR TREATING CARTILAGE DISORDERS
;  FILE REFERENCE: P1794R1
;  CURRENT APPLICATION NUMBER: US/09/858,935B
;  CURRENT FILING DATE:  2002-07-02
;  PRIOR APPLICATION NUMBER: US 60/248,985
;  PRIOR FILING DATE: 2000-11-15
;  PRIOR APPLICATION NUMBER: US 60/204,490
;  PRIOR FILING DATE: 2000-05-16
;  NUMBER OF SEQ ID NOS: 153
; SEQ ID NO 3
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-858-935B-3

  Query Match             30.2%;  Score 26;  DB 10;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 8
US-10-028-410-1
; Sequence 1, Application US/10028410
; Publication No. US20020160955A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1-1
;  CURRENT APPLICATION NUMBER: US/10/028,410
;  CURRENT FILING DATE:  2001-12-19
;  PRIOR APPLICATION NUMBER: US/09/477,924
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-028-410-1

  Query Match             30.2%;  Score 26;  DB 13;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 9
US-10-066-009A-1
; Sequence 1, Application US/10066009A
; Publication No. US20020165155A1
; GENERAL INFORMATION:
;  APPLICANT: Schaffer, Michelle
;  APPLICANT:  Ultsch, Mark
;  APPLICANT:  Vajdos, Felix
;  TITLE OF INVENTION: CRYSTALLIZATION OF IGF-1
;  FILE REFERENCE: P1869R1
;  CURRENT APPLICATION NUMBER: US/10/066,009A
;  CURRENT FILING DATE:  2002-06-24
;  PRIOR APPLICATION NUMBER: US 60/287,072
;  PRIOR FILING DATE: 2001-04-27
;  PRIOR APPLICATION NUMBER: US 60/267,977
;  PRIOR FILING DATE: 2001-02-09
;  NUMBER OF SEQ ID NOS: 5
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; SEQ ID NO 1
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-066-009A-1

Query Match 30.2%; Score 26; DB 13; Length 70;
Best Local Similarity 100.0%; Pred. No. 4.7e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 10
US-10-136-639-1
; Sequence 1, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
; APPLICANT: LeBowitz, Jonathan
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
; TITLE OF INVENTION: BARRIER
; FILE REFERENCE: SYM-008
; CURRENT APPLICATION NUMBER: US/10/136,639
; CURRENT FILING DATE: 2002-09-06
; PRIOR APPLICATION NUMBER: US 60/329,650
; PRIOR FILING DATE: 2001-10-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 1
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-136-639-1

Query Match 30.2%; Score 26; DB 14; Length 70;
Best Local Similarity 100.0%; Pred. No. 4.7e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 11
US-10-136-841-7
; Sequence 7, Application US/10136841
; Publication No. US20030082176A1
; GENERAL INFORMATION:
; APPLICANT: LeBowitz, Jonathan
; APPLICANT: Beverley, Stephen
; TITLE OF INVENTION: SUBCELLULAR TARGETING OF THERAPEUTIC PROTEINS
; FILE REFERENCE: SYM-007
; CURRENT APPLICATION NUMBER: US/10/136,841
; CURRENT FILING DATE: 2002-08-22
; PRIOR APPLICATION NUMBER: US 60/287,531
; PRIOR FILING DATE: 2001-04-30
; PRIOR APPLICATION NUMBER: US 60/304,609
; PRIOR FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: US 60/329,461
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 60/351,276
; PRIOR FILING DATE: 2002-01-23
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 7
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-136-841-7

Query Match 30.2%; Score 26; DB 14; Length 70;
Best Local Similarity 100.0%; Pred. No. 4.7e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 12
US-10-444-326-1
; Sequence 1, Application US/10444326
; Publication No. US20030191065A1
; GENERAL INFORMATION:
; APPLICANT: Dubaquie, Yves
; APPLICANT: Lowman, Henry
; TITLE OF INVENTION: PROTEIN VARIANTS
; FILE REFERENCE: P1712R1
; CURRENT APPLICATION NUMBER: US/10/444,326
; CURRENT FILING DATE: 2003-05-22
; PRIOR APPLICATION NUMBER: US/09/723,866
; PRIOR FILING DATE: 2000-11-28
; PRIOR APPLICATION NUMBER: US/09/477,923
; PRIOR FILING DATE: 2000-01-05
; NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-444-326-1

Query Match 30.2%; Score 26; DB 14; Length 70;
Best Local Similarity 100.0%; Pred. No. 4.7e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 13
US-10-272-531A-7
; Sequence 7, Application US/10272531A
; Publication No. US20040005309A1
; GENERAL INFORMATION:
; APPLICANT: LeBowitz, Jonathan H
; APPLICANT: Beverley, Stephen
; APPLICANT: Sly, William S.
; TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
; FILE REFERENCE: SYM-009
; CURRENT APPLICATION NUMBER: US/10/272,531A
; CURRENT FILING DATE: 2002-10-16
; PRIOR APPLICATION NUMBER: US 60/384,452
; PRIOR FILING DATE: 2002-05-29
; PRIOR APPLICATION NUMBER: US 60/386,019
; PRIOR FILING DATE: 2002-06-05
; PRIOR APPLICATION NUMBER: US 60/408,816
; PRIOR FILING DATE: 2002-09-06
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
; LENGTH: 70
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-272-531A-7

Query Match 30.2%; Score 26; DB 15; Length 70;
Best Local Similarity 100.0%; Pred. No. 4.7e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

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RESULT 14
US-10-272-483A-7
; Sequence 7, Application US/10272483A
; Publication No. US20040006008A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan H
;  APPLICANT:  Beverley, Stephen
;  TITLE OF INVENTION: TARGETED THERAPEUTIC PROTEINS
;  FILE REFERENCE: SYM-007CP
;  CURRENT APPLICATION NUMBER: US/10/272,483A
;  CURRENT FILING DATE:  2002-10-16
;  PRIOR APPLICATION NUMBER: US 60/287,531
;  PRIOR FILING DATE: 2001-04-30
;  PRIOR APPLICATION NUMBER: US 10/136,841
;  PRIOR FILING DATE: 2002-04-30
;  PRIOR APPLICATION NUMBER: US 60/384,452
;  PRIOR FILING DATE: 2002-05-29
;  PRIOR APPLICATION NUMBER: US 60/386,019
;  PRIOR FILING DATE: 2002-06-05
;  PRIOR APPLICATION NUMBER: US 60/408,816
;  PRIOR FILING DATE: 2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/304,609
;  PRIOR FILING DATE: 2001-07-10
;  PRIOR APPLICATION NUMBER: US 60/329,461
;  PRIOR FILING DATE: 2001-10-15
;  PRIOR APPLICATION NUMBER: US 60/351,276
;  PRIOR FILING DATE: 2002-01-23
;  NUMBER OF SEQ ID NOS: 22
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 7
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-272-483A-7

  Query Match             30.2%;  Score 26;  DB 15;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 15
US-10-444-262-1
; Sequence 1, Application US/10444262
; Publication No. US20040023883A1
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/10/444,262
;  CURRENT FILING DATE:  2003-05-22
;  PRIOR APPLICATION NUMBER: US/09/724,478
;  PRIOR FILING DATE: 2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;   LENGTH: 70
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-444-262-1

  Query Match             30.2%;  Score 26;  DB 16;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 16
US-10-323-046-42
; Sequence 42, Application US/10323046
; Publication No. US20030187232A1
; GENERAL INFORMATION:
;  APPLICANT: Hubbell, Jeffrey A
;  APPLICANT:  Schense, Jason C
;  APPLICANT:  Sakiyama-Elbert, Shelly E
;  TITLE OF INVENTION: Growth Factor Modified Protein Matrices for Tissue
;  TITLE OF INVENTION:  Engineering
;  FILE REFERENCE: ETH 107 CIP (2)
;  CURRENT APPLICATION NUMBER: US/10/323,046
;  CURRENT FILING DATE:  2002-12-17
;  PRIOR APPLICATION NUMBER: 09/141,153
;  PRIOR FILING DATE: 1998-08-27
;  NUMBER OF SEQ ID NOS: 43
;  SOFTWARE: PatentIn Ver. 3.1
; SEQ ID NO 42
;   LENGTH: 91
;   TYPE: PRT
;   ORGANISM: Artificial sequence
;   FEATURE:
;   OTHER INFORMATION: Modified IGF 1 from Homo sapiens
US-10-323-046-42

  Query Match             30.2%;  Score 26;  DB 14;  Length 91;
  Best Local Similarity   100.0%;  Pred. No. 5.8e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         57 RRAPQTGIVDECCFRSCDLRRLEMYC 82


RESULT 17
US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-852-261-10

  Query Match             30.2%;  Score 26;  DB 9;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 18
US-09-852-261-14
; Sequence 14, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
```

```
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 14
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

  Query Match             30.2%;  Score 26;  DB 9;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 19
US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE RE
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-3

  Query Match             30.2%;  Score 26;  DB 14;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 20
US-09-852-261-2
; Sequence 2, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 110
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-852-261-2

  Query Match             30.2%;  Score 26;  DB 9;  Length 110;
  Best Local Similarity   100.0%;  Pred. No. 6.8e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 21
US-09-852-261-6
; Sequence 6, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

  Query Match             30.2%;  Score 26;  DB 9;  Length 111;
  Best Local Similarity   100.0%;  Pred. No. 6.8e-18;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 22
US-10-179-046-14
; Sequence 14, Application US/10179046
; Publication No. US20030013154A1
;   GENERAL INFORMATION:
;        APPLICANT: Crawford, Kenneth
;                   Zaror, Isabel
;                   Innis, Michael
;        TITLE OF INVENTION: Pichia Secretory Leader for Protein
;                            Expression
;        NUMBER OF SEQUENCES: 40
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Chiron Corporation
;             STREET: 4560 Horton Street
;             CITY: Emeryville
;             STATE: California
;             COUNTRY: United States
;             ZIP: 94608
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/179,046
;             FILING DATE: 25-Jun-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/09/029,267
;             FILING DATE: <Unknown>
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;         ATTORNEY/AGENT INFORMATION:
;              NAME: Chung, Ling-Fong
;              REGISTRATION NUMBER: 36,482
;              REFERENCE/DOCKET NUMBER: 1165.100
;         TELECOMMUNICATION INFORMATION:
;              TELEPHONE: (510) 601-2704
;              TELEFAX: (510) 655-3542
;    INFORMATION FOR SEQ ID NO: 14:
;         SEQUENCE CHARACTERISTICS:
;              LENGTH: 118 amino acids
;              TYPE: amino acid
;              STRANDEDNESS: single
;              TOPOLOGY: linear
;         MOLECULE TYPE: protein
;         SEQUENCE DESCRIPTION: SEQ ID NO: 14:
US-10-179-046-14

  Query Match             30.2%;  Score 26;  DB 14;  Length 118;
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Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 23
US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
;  APPLICANT: Alberini, Cristina M.
;  APPLICANT:  Bear, Mark F.
;  TITLE OF INVENTION: Methods and Compositions for Regulating
;  TITLE OF INVENTION:  Memory Consolidation
;  FILE REFERENCE: 3499.1001-003
;  CURRENT APPLICATION NUMBER: US/10/251,661
;  CURRENT FILING DATE:  2002-09-20
;  PRIOR APPLICATION NUMBER: 60/193,614
;  PRIOR FILING DATE: 2000-03-31
;  PRIOR APPLICATION NUMBER: PCT/US01/10661
;  PRIOR FILING DATE: 2001-04-02
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 137
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-251-661-8

  Query Match             30.2%;  Score 26;  DB 14;  Length 137;
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Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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RESULT 24
US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US20020106662A1
; GENERAL INFORMATION:
;  APPLICANT: Mutter, George L.
;  TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
;  FILE REFERENCE: B0801/7225
;  CURRENT APPLICATION NUMBER: US/09/919,497
;  CURRENT FILING DATE:  2001-07-31
;  PRIOR APPLICATION NUMBER: US 60/221,735
;  PRIOR FILING DATE: 2000-07-31
;  NUMBER OF SEQ ID NOS: 100
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-919-497-74

  Query Match             30.2%;  Score 26;  DB 9;  Length 153;
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Db         84 RRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 25
US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-3

  Query Match             30.2%;  Score 26;  DB 14;  Length 153;
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Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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GenCore version 5.1.6

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Searched: 389414 seqs, 51625971 residues

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Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
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Post-processing: Listing first 100 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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2	26	30.2	38	6	5470721-4	Patent No. 5470721
3	26	30.2	67	4	US-07-963-329A-2	Sequence 2, Appli
4	26	30.2	67	5	PCT-US92-09443A-2	Sequence 2, Appli
5	26	30.2	70	1	US-07-654-611-2	Sequence 2, Appli
6	26	30.2	70	1	US-07-947-035-1	Sequence 1, Appli
7	26	30.2	70	1	US-07-776-272-17	Sequence 17, Appl
8	26	30.2	70	1	US-07-958-903A-17	Sequence 17, Appl
9	26	30.2	70	1	US-08-462-018-17	Sequence 17, Appl
10	26	30.2	70	1	US-08-823-245-17	Sequence 17, Appl
11	26	30.2	70	1	US-08-482-271-1	Sequence 1, Appli
12	26	30.2	70	3	US-09-080-120A-1	Sequence 1, Appli
13	26	30.2	70	3	US-08-432-517-1	Sequence 1, Appli
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17	26	30.2	70	4	US-09-723-896-1	Sequence 1, Appli
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19	26	30.2	70	5	PCT-US93-11458-1	Sequence 1, Appli
20	26	30.2	70	5	PCT-US95-08925-1	Sequence 1, Appli
21	26	30.2	70	6	5470828-1	Patent No. 5470828
22	26	30.2	78	2	US-08-460-890A-47	Sequence 47, Appl
23	26	30.2	78	3	US-08-167-641C-47	Sequence 47, Appl
24	26	30.2	78	3	US-08-460-971A-47	Sequence 47, Appl
25	26	30.2	78	3	US-08-462-040-47	Sequence 47, Appl
26	26	30.2	83	1	US-07-947-035-18	Sequence 18, Appl
27	26	30.2	83	1	US-08-321-585A-12	Sequence 12, Appl
28	26	30.2	94	1	US-07-989-845-28	Sequence 28, Appl
29	26	30.2	94	1	US-07-989-844-12	Sequence 12, Appl
30	26	30.2	94	1	US-08-161-044-12	Sequence 12, Appl
31	26	30.2	94	1	US-08-240-121-12	Sequence 12, Appl
32	26	30.2	94	1	US-08-451-241-12	Sequence 12, Appl
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34	26	30.2	94	5	PCT-US93-11298-28	Sequence 28, Appl
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45	26	30.2	118	3	US-09-029-267-14	Sequence 14, Appl
46	26	30.2	121	3	US-09-142-583A-4	Sequence 4, Appli
47	26	30.2	137	1	US-07-953-230A-10	Sequence 10, Appl
48	26	30.2	152	3	US-08-950-720A-9	Sequence 9, Appli
49	26	30.2	153	1	US-08-219-878A-1	Sequence 1, Appli
50	26	30.2	153	5	PCT-US93-04329-1	Sequence 1, Appli
51	26	30.2	155	1	US-07-654-611-1	Sequence 1, Appli
52	26	30.2	155	1	US-08-328-961-8	Sequence 8, Appli
53	26	30.2	155	1	US-08-462-397-8	Sequence 8, Appli
54	26	30.2	155	3	US-08-989-251-39	Sequence 39, Appl
55	26	30.2	155	3	US-09-340-250-39	Sequence 39, Appl
56	26	30.2	155	4	US-09-528-108-39	Sequence 39, Appl
57	26	30.2	156	3	US-09-142-583A-11	Sequence 11, Appl
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61	26	30.2	953	4	US-09-255-829-14	Sequence 14, Appl
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63	23	26.7	68	4	US-09-201-227A-44	Sequence 44, Appl
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65	22	25.6	68	4	US-09-084-303B-218	Sequence 218, App
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67	18	20.9	119	6	5405942-1	Patent No. 5405942
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69	15	17.4	15	1	US-07-958-903A-20	Sequence 20, Appl
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76	10	11.6	10	1	US-08-462-018-19	Sequence 19, Appl
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80	10	11.6	19	1	US-07-958-903A-21	Sequence 21, Appl
81	10	11.6	19	1	US-08-462-018-21	Sequence 21, Appl
82	10	11.6	19	1	US-08-823-245-21	Sequence 21, Appl
83	10	11.6	19	4	US-07-963-329A-21	Sequence 21, Appl
84	10	11.6	19	5	PCT-US92-09443A-21	Sequence 21, Appl
85	9	10.5	19	1	US-07-958-903A-27	Sequence 27, Appl
86	9	10.5	19	1	US-07-958-903A-30	Sequence 30, Appl
87	9	10.5	19	1	US-08-462-018-27	Sequence 27, Appl
88	9	10.5	19	1	US-08-462-018-30	Sequence 30, Appl
89	9	10.5	19	1	US-08-823-245-27	Sequence 27, Appl
90	9	10.5	19	1	US-08-823-245-30	Sequence 30, Appl
91	9	10.5	19	4	US-07-963-329A-27	Sequence 27, Appl
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93	9	10.5	19	5	PCT-US92-09443A-27	Sequence 27, Appl
94	9	10.5	19	5	PCT-US92-09443A-30	Sequence 30, Appl
95	9	10.5	35	4	US-09-120-818-1	Sequence 1, Appli
96	9	10.5	35	4	US-09-609-642-1	Sequence 1, Appli
97	9	10.5	35	4	US-09-669-642-1	Sequence 1, Appli
98	9	10.5	47	4	US-09-120-818-2	Sequence 2, Appli
99	9	10.5	47	4	US-09-609-642-2	Sequence 2, Appli
100	9	10.5	47	4	US-09-669-642-2	Sequence 2, Appli

ALIGNMENTS

```
RESULT 1
5489517-4
;Patent No.5489517
;     APPLICANT: WONG, EDITH;BITTNER, MICHAEL L.
;     TITLE OF INVENTION: SECRETION OF INSULIN-LIKE GROWTH
;FACTOR-I IN E. COLI
;     NUMBER OF SEQUENCES: 7
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/07/704,486
;       FILING DATE: 23-MAY-1991
;SEQ ID NO:4:
;       LENGTH: 36
5489517-4

  Query Match             30.2%;  Score 26;  DB 6;  Length 36;
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  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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Db          2 RRAPQTGIVDECCFRSCDLRRLEMYC 27


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;Patent No. 5470721
;     APPLICANT: BUELL, GARY N.;MOVVA, NAAGESWARARAO
;     TITLE OF INVENTION: PRODUCTION OF HUMAN SOMATOMEDIN C
;     NUMBER OF SEQUENCES: 7
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/81,979
;       FILING DATE: 23-JUN-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 965,047
;       FILING DATE: 21-OCT-1992
;       APPLICATION NUMBER: 496,086
;       FILING DATE: 15-MAR-1990
;       APPLICATION NUMBER: 938,170
;       FILING DATE: 19-NOV-1986
;SEQ ID NO:4:
;       LENGTH: 38
5470721-4

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RESULT 3
US-07-963-329A-2
; Sequence 2, Application US/07963329A
; Patent No. 6310040
;  GENERAL INFORMATION:
;     APPLICANT:  Bozyczko-Coyne, Donna
;     APPLICANT:  Neff, Nicola
;     APPLICANT:  Lewis, Michael E.
;     APPLICANT:  Iqbal, Mohamed
;     TITLE OF INVENTION:  TREATING RETINAL NEURONAL DISORDERS
;     TITLE OF INVENTION:  BY THE APPLICATION OF INSULIN-LIKE
;     TITLE OF INVENTION:  GROWTH FACTORS AND ANALOGS
;     NUMBER OF SEQUENCES:  79
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Fish & Richardson
;       STREET:  225 Franklin Street
;       CITY:  Boston
;       STATE:  Massachusetts
;       COUNTRY:  U.S.A.
;       ZIP:  02110-2804
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;       COMPUTER:  IBM PS/2 Model 50Z or 55SX
;       OPERATING SYSTEM:  MS-DOS (Version 5.0)
;       SOFTWARE:  WordPerfect (Version 5.1)
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;       APPLICATION NUMBER:  US/07/963,329A
;       FILING DATE:  19921015
;       CLASSIFICATION:  514
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  07/790,690
;       FILING DATE:  No. 6310040ember 8, 1991
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Clark, Paul T.
;       REGISTRATION NUMBER:  30,162
;       REFERENCE/DOCKET NUMBER:  02655/012002
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 542-5070
;       TELEFAX:  (617) 542-8906
;       TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  67
;       TYPE:  amino acid
;       STRANDEDNESS:
;       TOPOLOGY:  linear
US-07-963-329A-2

  Query Match             30.2%;  Score 26;  DB 4;  Length 67;
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RESULT 4
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; Sequence 2, Application PC/TUS9209443A
;  GENERAL INFORMATION:
;     APPLICANT:  Bozyczko-Coyne, Donna
;     APPLICANT:  Neff, Nicola
;     APPLICANT:  Lewis, Michael E.
;     APPLICANT:  Iqbal, Mohamed
;     TITLE OF INVENTION:  TREATING RETINAL NEURONAL
;     TITLE OF INVENTION:  DISORDERS BY THE APPLICATION OF
;     TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS AND
;     TITLE OF INVENTION:  ANALOGS
;     NUMBER OF SEQUENCES:  79
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Fish & Richardson
;       STREET:  225 Franklin Street
;       CITY:  Boston
;       STATE:  Massachusetts
;       COUNTRY:  U.S.A.
;       ZIP:  02110-2804
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;       COMPUTER:  IBM PS/2 Model 50Z or 55SX
;       OPERATING SYSTEM:  MS-DOS (Version 5.0)
;       SOFTWARE:  WordPerfect (Version 5.1)
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;       APPLICATION NUMBER:  PCT/US92/09443A
;       FILING DATE:  19921103
;       CLASSIFICATION:
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  07/790,690
;       FILING DATE:  November 8, 1991
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;       APPLICATION NUMBER:  07/963,329
;       FILING DATE:  October 15, 1992
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Clark, Paul T.
;       REGISTRATION NUMBER:  30,162
;       REFERENCE/DOCKET NUMBER:  02655/012WO2
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (617) 542-5070
;       TELEFAX:  (617) 542-8906
;       TELEX:  200154
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  67
;       TYPE:  AMINO ACID
;       STRANDEDNESS:  N/A
;       TOPOLOGY:  N/A
PCT-US92-09443A-2

  Query Match             30.2%;  Score 26;  DB 5;  Length 67;
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Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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Db          33 RRAPQTGIVDECCFRSCDLRRLEMYC 58


RESULT 5
US-07-654-611-2
; Sequence 2, Application US/07654611
; Patent No. 5273966
;  GENERAL INFORMATION:
;     APPLICANT:  Sknottner-Lundin, Anna
;     APPLICANT:  Fryklund, Linda
;     APPLICANT:  Gellerfors, Par
;     TITLE OF INVENTION:  O-Glycosylated IGF-1
;     NUMBER OF SEQUENCES:  2
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Pollock, Vande Sande and Priddy
;       STREET:  1990 M Street, NW Suite 800
;       CITY:  Washington
;       STATE:  DC
;       COUNTRY:  US
;       ZIP:  20036
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/07/654,611
;       FILING DATE:  19910422
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  GB 8819826.2
;       FILING DATE:  20-AUG-1988
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/EP89/00972
;       FILING DATE:  17-AUG-1989
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Amernick, Burton A.
;       REGISTRATION NUMBER:  24,852
;       REFERENCE/DOCKET NUMBER:  151/031
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (202)331-7111
;       TELEFAX:  (202)223-2596
;       TELEX:  248587 RING
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  70 amino acids
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;       NAME/KEY:  Protein
;       LOCATION:  1..70
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;       LOCATION:  4
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;       NAME/KEY:  Cleavage-site
;       LOCATION:  (29^30)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (31^32)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (36^37)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (37^38)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (41^42)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (50^51)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (55^56)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (56^57)
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;     OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (60^61)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cleavage-site
;       LOCATION:  (68^69)
;       OTHER INFORMATION:  /note= "trypsin cleavage site"
;     FEATURE:
;       NAME/KEY:  Cross-links
;       LOCATION:  6..48
;     FEATURE:
;       NAME/KEY:  Cross-links
;       LOCATION:  18..61
;     FEATURE:
;       NAME/KEY:  Cross-links
;       LOCATION:  47..52
US-07-654-611-2

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 6
US-07-947-035-1
; Sequence 1, Application US/07947035
; Patent No. 5444045
;  GENERAL INFORMATION:
;    APPLICANT:  Francis, Geoffrey L.
;    APPLICANT:  Walton, Paul E.
;    APPLICANT:  Ballard, Francis J.
;    APPLICANT:  McMurty, John P.
;    APPLICANT:  Phelps, Patricia V.
;    TITLE OF INVENTION:  Method of Administering IGF-1, IGF-2,
;    TITLE OF INVENTION:  and Analogs Thereof to Birds
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Kenneth D. Sibley
;      STREET:  P.O. Drawer 34009
;      CITY:  Charlotte
;      STATE:  No. 5444045th Carolina
;      COUNTRY:  US
;      ZIP:  28234
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/947,035
;      FILING DATE:  17-SEP-1992
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Sibley, Kenneth D.
;      REGISTRATION NUMBER:  31,665
;      REFERENCE/DOCKET NUMBER:  5175-59
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (919) 881-3140
;      TELEFAX:  (919) 881-3175
;      TELEX:  575102
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
US-07-947-035-1

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 7
US-07-776-272-17
; Sequence 17, Application US/07776272
; Patent No. 5612454
;  GENERAL INFORMATION:
;    APPLICANT:  Kaminuma, Toshihiko
;    APPLICANT:  Iida, Toshii
;    APPLICANT:  Tajima, Masahiro
;    TITLE OF INVENTION:  Process for Purification of Polypeptide
;    NUMBER OF SEQUENCES:  31
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Wegner, Cantor, Mueller & Player
;      STREET:  1233 20th St. N.W.  P.O. Box 18218
;      CITY:  Washington
;      STATE:  District of Columbia
;      COUNTRY:  United States of America
;      ZIP:  20036-8218
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/776,272
;      FILING DATE:  19911129
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Player, William E
;      REGISTRATION NUMBER:  31,409
;      REFERENCE/DOCKET NUMBER:  P-450-23167
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-887-0400
;      TELEFAX:  202-887-0605
;      TELEX:  440706
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  YES
US-07-776-272-17

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 8
US-07-958-903A-17
; Sequence 17, Application US/07958903A
; Patent No. 5652214
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
```

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;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING DISORDERS BY APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/958,903A
;      FILING DATE:  October 7, 1992
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 5, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/003004
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-07-958-903A-17

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
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Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 9
US-08-462-018-17
; Sequence 17, Application US/08462018
; Patent No. 5703045
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING DISORDERS BY APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson P.C.
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/462,018
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/958,903
;      FILING DATE:  October 7, 1992
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 5, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/003005
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-462-018-17

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 10
US-08-823-245-17
; Sequence 17, Application US/08823245
; Patent No. 5776897
;  GENERAL INFORMATION:
;    APPLICANT:  Lewis, Michael
;    APPLICANT:  Kauer, James C.
;    APPLICANT:  Smith, Kevin R.
;    APPLICANT:  Callison, Kathleen V.
;    APPLICANT:  Baldino, Frank
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING DISORDERS BY
;    TITLE OF INVENTION:  APPLICATION
;    TITLE OF INVENTION:  OF INSULIN-LIKE GROWTH
;    TITLE OF INVENTION:  FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
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;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or
;      COMPUTER:  55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version
;      SOFTWARE:  5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/823,245
;      FILING DATE:  March 24, 1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/361,595
;      FILING DATE:  June 6, 1989
;      APPLICATION NUMBER:  07/534,139
;      FILING DATE:  June 5, 1990
;      APPLICATION NUMBER:  07/869,913
;      FILING DATE:  April 15, 1992
;      APPLICATION NUMBER:  07/958,903
;      FILING DATE:  October 7, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Creeson, Gary L.
;      REGISTRATION NUMBER:  34,310
;      REFERENCE/DOCKET NUMBER:  02655/003008
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  17:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:  N/A
;      TOPOLOGY:  N/A
US-08-823-245-17

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 11
US-08-482-271-1
; Sequence 1, Application US/08482271
; Patent No. 5789547
;  GENERAL INFORMATION:
;    APPLICANT:  Sommer, Andreas
;    APPLICANT:  Ogawa, Yasushi
;    APPLICANT:  Tao, Peggy
;    TITLE OF INVENTION:  METHOD OF PRODUCING IGF-1 AND IGFBP-3
;    TITLE OF INVENTION:  WITH CORRECT FOLDING AND DISULFIDE BONDING
;    NUMBER OF SEQUENCES:  8
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
;      CITY:  Palo Alto
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/482,271
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Park, Freddie K.
;      REGISTRATION NUMBER:  35,636
;      REFERENCE/DOCKET NUMBER:  22095-20284.00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 813-5600
;      TELEFAX:  (415) 494-0792
;      TELEX:  706141MRSN FOERS SFO
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-482-271-1

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 12
US-09-080-120A-1
; Sequence 1, Application US/09080120A
; Patent No. 6017885
;  GENERAL INFORMATION:
;    APPLICANT:  BAGI, CEDO M.
;    APPLICANT:  BROMMAGE, ROBERT
;    APPLICANT:  ROSEN, DAVID M.
;    APPLICANT:  ADAMS, STEVEN W.
;    TITLE OF INVENTION:  IGF/IGFBP COMPLEX FOR PROMOTING BONE
;    TITLE OF INVENTION:  FORMATION AND FOR REGULATING BONE REMODELING
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/080,120A
;      FILING DATE:  14-MAY-1998
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/806,918
;      FILING DATE:  26-FEB-1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/450,258
;      FILING DATE:  25-MAY-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/278,456
;      FILING DATE:  20-JUL-1994
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Buffinger, Nicholas
;      REGISTRATION NUMBER:  39,124
;      REFERENCE/DOCKET NUMBER:  220952027203
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (650) 813-5600
;      TELEFAX:  (650) 494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  1:
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;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-09-080-120A-1

  Query Match             30.2%;  Score 26;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 13
US-08-432-517-1
; Sequence 1, Application US/08432517
; Patent No. 6083912
;  GENERAL INFORMATION:
;    APPLICANT:  KHOURI, ROGER K.
;    TITLE OF INVENTION:  METHOD FOR SOFT TISSUE AUGMENTATION
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  ROGERS, HOWELL & HAFERKAMP, L.C.
;      STREET:  7733 FORSYTH BOULEVARD, SUITE 1400
;      CITY:  ST. LOUIS
;      STATE:  MISSOURI
;      COUNTRY:  USA
;      ZIP:  63105-1817
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/432,517
;      FILING DATE:  01-MAY-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  HOLLAND, DONALD R.
;      REGISTRATION NUMBER:  35,197
;      REFERENCE/DOCKET NUMBER:  952584
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (314) 727-5188
;      TELEFAX:  (314) 727-6092
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  6..48
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  18..61
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
;    FEATURE:
;      NAME/KEY:  Disulfide-bond
;      LOCATION:  47..52
;      OTHER INFORMATION:  /note= "Disulfide bond between two
;      OTHER INFORMATION:  cysteines."
US-08-432-517-1

  Query Match             30.2%;  Score 26;  DB 3;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 14
US-07-963-329A-1
; Sequence 1, Application US/07963329A
; Patent No. 6310040
;  GENERAL INFORMATION:
;    APPLICANT:  Bozyczko-Coyne, Donna
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING RETINAL NEURONAL DISORDERS
;    TITLE OF INVENTION:  BY THE APPLICATION OF INSULIN-LIKE
;    TITLE OF INVENTION:  GROWTH FACTORS AND ANALOGS
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/963,329A
;      FILING DATE:  19921015
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/790,690
;      FILING DATE:  No. 6310040ember 8, 1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/012002
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-07-963-329A-1

  Query Match             30.2%;  Score 26;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 15
US-09-477-924-1
; Sequence 1, Application US/09477924
; Patent No. 6403764
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT: Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1-1
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;  CURRENT APPLICATION NUMBER: US/09/477,924
;  CURRENT FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;    LENGTH: 70
;    TYPE: PRT
;    ORGANISM: Homo sapiens
US-09-477-924-1

  Query Match             30.2%;  Score 26;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 16
US-09-723-981-1
; Sequence 1, Application US/09723981
; Patent No. 6506874
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/09/723,981
;  CURRENT FILING DATE:  2000-11-28
;  PRIOR APPLICATION NUMBER: 09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;    LENGTH: 70
;    TYPE: PRT
;    ORGANISM: Homo sapiens
US-09-723-981-1

  Query Match             30.2%;  Score 26;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 17
US-09-723-896-1
; Sequence 1, Application US/09723896
; Patent No. 6509443
; GENERAL INFORMATION:
;  APPLICANT: Dubaquie, Yves
;  APPLICANT:  Lowman, Henry
;  TITLE OF INVENTION: PROTEIN VARIANTS
;  FILE REFERENCE: P1712R1
;  CURRENT APPLICATION NUMBER: US/09/723,896
;  CURRENT FILING DATE:  2000-11-28
;  PRIOR APPLICATION NUMBER: US/09/477,923
;  PRIOR FILING DATE: 2000-01-05
;  NUMBER OF SEQ ID NOS: 6
; SEQ ID NO 1
;    LENGTH: 70
;    TYPE: PRT
;    ORGANISM: Homo sapiens
US-09-723-896-1

  Query Match             30.2%;  Score 26;  DB 4;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 18
PCT-US92-09443A-1
; Sequence 1, Application PC/TUS9209443A
;  GENERAL INFORMATION:
;    APPLICANT:  Bozyczko-Coyne, Donna
;    APPLICANT:  Neff, Nicola
;    APPLICANT:  Lewis, Michael E.
;    APPLICANT:  Iqbal, Mohamed
;    TITLE OF INVENTION:  TREATING RETINAL NEURONAL
;    TITLE OF INVENTION:  DISORDERS BY THE APPLICATION OF
;    TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS AND
;    TITLE OF INVENTION:  ANALOGS
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  U.S.A.
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      COMPUTER:  IBM PS/2 Model 50Z or 55SX
;      OPERATING SYSTEM:  MS-DOS (Version 5.0)
;      SOFTWARE:  WordPerfect (Version 5.1)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US92/09443A
;      FILING DATE:  19921103
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/790,690
;      FILING DATE:  November 8, 1991
;      APPLICATION NUMBER:  07/963,329
;      FILING DATE:  October 15, 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Clark, Paul T.
;      REGISTRATION NUMBER:  30,162
;      REFERENCE/DOCKET NUMBER:  02655/012WO2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 542-5070
;      TELEFAX:  (617) 542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  70
;      TYPE:  AMINO ACID
;      STRANDEDNESS:  N/A
;      TOPOLOGY:  N/A
PCT-US92-09443A-1

  Query Match             30.2%;  Score 26;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
               ||||||||||||||||||||||||||
Db          36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 19
PCT-US93-11458-1
; Sequence 1, Application PC/TUS9311458
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  MODIFIED INSULIN-LIKE GROWTH FACTOR
;    NUMBER OF SEQUENCES:  20
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
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;       SOFTWARE:  PatentIn Release #1.0, Version #1.25 (EPO)
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/US93/11458
;       FILING DATE:  24-NOV-1993
;       CLASSIFICATION:
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  70 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
PCT-US93-11458-1

  Query Match             30.2%;  Score 26;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 20
PCT-US95-08925-1
; Sequence 1, Application PC/TUS9508925
;  GENERAL INFORMATION:
;     APPLICANT:  CELTRIX PHARMACEUTICALS, INC.
;     TITLE OF INVENTION:  IGF/IGFBP COMPLEX FOR PROMOTING BONE
;     TITLE OF INVENTION:  FORMATION AND FOR REGULATING BONE REMODELING
;     NUMBER OF SEQUENCES:  7
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  MORRISON & FOERSTER
;       STREET:  755 Page Mill Road
;       CITY:  Palo Alto
;       STATE:  California
;       COUNTRY:  USA
;       ZIP:  94304-1018
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/US95/08925
;       FILING DATE:  NEW
;       CLASSIFICATION:
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  PARK, FREDDIE K.
;       REGISTRATION NUMBER:  35,636
;       REFERENCE/DOCKET NUMBER:  220952027240
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (415) 813-5600
;       TELEFAX:  (415) 494-0792
;       TELEX:  706141
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  70 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
PCT-US95-08925-1

  Query Match             30.2%;  Score 26;  DB 5;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 21
5470828-1
;Patent No. 5470828
;     APPLICANT: BALLARD, FRANCIS J.;WALLACE, JOHN C.;
;WELLS, JULIAN R.E.
;     TITLE OF INVENTION: PEPTIDE ANALOGS OF INSULIN-LIKE GROWTH
;FACTOR II
;     NUMBER OF SEQUENCES: 2
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/947,514
;       FILING DATE: 17-SEP-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 408,518
;       FILING DATE: 24-AUG-1989
;SEQ ID NO:1:
;       LENGTH: 70
5470828-1

  Query Match             30.2%;  Score 26;  DB 6;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 22
US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
;  GENERAL INFORMATION:
;     APPLICANT:  Woo, Savio L.C.
;     APPLICANT:  Smith, Louis C.
;     APPLICANT:  Cristiano, Richard J.
;     APPLICANT:  Gottchalk, Stephen
;     TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;     TITLE OF INVENTION:  METHODS OF USE
;     NUMBER OF SEQUENCES:  65
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Lyon & Lyon
;       STREET:  633 West Fifth Street
;       STREET:  Suite 4700
;       CITY:  Los Angeles
;       STATE:  California
;       COUNTRY:  U.S.A.
;       ZIP:  90071-2066
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;       MEDIUM TYPE:  storage
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  IBM P.C. DOS 5.0
;       SOFTWARE:  FastSEQ for Windows 2.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/460,890A
;       FILING DATE:  June 5, 1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/167,641
;       FILING DATE:  December 14, 1993
;       APPLICATION NUMBER:  07/855,389
;       FILING DATE:  March 20, 1992
;       APPLICATION NUMBER:  PCT/US93/02725
;       FILING DATE:  March 19, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Warburg, Richard J.
;       REGISTRATION NUMBER:  32,327
;       REFERENCE/DOCKET NUMBER:  212/066
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (213) 489-1600
;       TELEFAX:  (213) 955-0440
;       TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;     SEQUENCE CHARACTERISTICS:
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;      LENGTH:  78 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-460-890A-47

  Query Match             30.2%;  Score 26;  DB 2;  Length 78;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         34 RRAPQTGIVDECCFRSCDLRRLEMYC 59


RESULT 23
US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Lyon & Lyon
;      STREET:  633 West Fifth Street
;      STREET:  Suite 4700
;      CITY:  Los Angeles
;      STATE:  California
;      COUNTRY:  U.S.A.
;      ZIP:  90071-2066
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      MEDIUM TYPE:  storage
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  IBM P.C. DOS 5.0
;      SOFTWARE:  FastSEQ for Windows 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/167,641C
;      FILING DATE:  December 14, 1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/855,389
;      FILING DATE:  March 20, 1992
;      APPLICATION NUMBER:  PCT/US93/02725
;      FILING DATE:  March 19, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warburg, Richard J.
;      REGISTRATION NUMBER:  32,327
;      REFERENCE/DOCKET NUMBER:  205/012
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (213) 489-1600
;      TELEFAX:  (213) 955-0440
;      TELEX:  67-3510
;  INFORMATION FOR SEQ ID NO:  47:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  78 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-167-641C-47

  Query Match             30.2%;  Score 26;  DB 3;  Length 78;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         34 RRAPQTGIVDECCFRSCDLRRLEMYC 59


RESULT 24
US-08-460-971A-47
; Sequence 47, Application US/08460971A
; Patent No. 6150168
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Lyon & Lyon
;      STREET:  633 West Fifth Street
;      STREET:  Suite 4700
;      CITY:  Los Angeles
;      STATE:  California
;      COUNTRY:  U.S.A.
;      ZIP:  90071-2066
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      MEDIUM TYPE:  storage
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  IBM P.C. DOS 5.0
;      SOFTWARE:  FastSEQ for Windows 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/460,971A
;      FILING DATE:  June 5, 1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/167,641
;      FILING DATE:  December 14, 1993
;      APPLICATION NUMBER:  07/855,389
;      FILING DATE:  March 20, 1992
;      APPLICATION NUMBER:  PCT/US93/02725
;      FILING DATE:  March 19, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warburg, Richard J.
;      REGISTRATION NUMBER:  32,327
;      REFERENCE/DOCKET NUMBER:  212/063
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (213) 489-1600
;      TELEFAX:  (213) 955-0440
;      TELEX:  67-3510
;  INFORMATION FOR SEQ ID NO:  47:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  78 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-460-971A-47

  Query Match             30.2%;  Score 26;  DB 3;  Length 78;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         34 RRAPQTGIVDECCFRSCDLRRLEMYC 59


RESULT 25
US-08-462-040-47
; Sequence 47, Application US/08462040
; Patent No. 6177554
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
```

```
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Lyon & Lyon
;      STREET:  633 West Fifth Street
;      STREET:  Suite 4700
;      CITY:  Los Angeles
;      STATE:  California
;      COUNTRY:  U.S.A.
;      ZIP:  90071-2066
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      MEDIUM TYPE:  storage
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  IBM P.C. DOS 5.0
;      SOFTWARE:  FastSEQ for Windows 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/462,040
;      FILING DATE:  June 5, 1995
;      CLASSIFICATION:  536
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/167,641
;      FILING DATE:  December 14, 1993
;      APPLICATION NUMBER:  07/855,389
;      FILING DATE:  March 20, 1992
;      APPLICATION NUMBER:  PCT/US93/02725
;      FILING DATE:  March 19, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warburg, Richard J.
;      REGISTRATION NUMBER:  32,327
;      REFERENCE/DOCKET NUMBER:  212/078
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (213) 489-1600
;      TELEFAX:  (213) 955-0440
;      TELEX:  67-3510
;  INFORMATION FOR SEQ ID NO:  47:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  78 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-462-040-47

  Query Match             30.2%;  Score 26;  DB 3;  Length 78;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-20;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         34 RRAPQTGIVDECCFRSCDLRRLEMYC 59


Search completed: March  3, 2004, 12:03:46
Job time : 23 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 3, 2004, 11:55:20 ; Search time 54 Seconds
(without alignments)
449.983 Million cell updates/sec

Title: US-09-852-261-4_COPY_26_111
Perfect score: 86
Sequence: 1 NKPTVYGSSIRRAPQTGIVD.....THKKRKLQRRRKGSTLEEHK 86

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 1586107 seqs, 282547505 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 100 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	86	100.0	111	4	AAE02448	Aae02448 Rat IGF-I
2	86	100.0	111	5	AAU10560	Aau10560 Rat mecha
3	86	100.0	111	7	ABR63168	Abr63168 Rat mecha
4	61	70.9	105	4	AAE02531	Aae02531 Rat liver
5	61	70.9	105	4	AAE02451	Aae02451 Rat liver
6	61	70.9	105	5	AAU10563	Aau10563 Rat insul
7	61	70.9	105	7	ABR63171	Abr63171 Rat liver
8	40	46.5	181	7	ADE57466	Ade57466 Rat Prote
9	31	36.0	127	7	ADA23373	Ada23373 Mouse ins
10	31	36.0	133	6	ABP58085	Abp58085 Mouse ins
11	31	36.0	133	7	ADA23374	Ada23374 Mouse MGF
12	31	36.0	153	7	ADD47095	Add47095 Rat Prote
13	26	30.2	36	1	AAP80433	Aap80433 Sequence
14	26	30.2	38	1	AAP60718	Aap60718 Synthetic
15	26	30.2	62	1	AAP90515	Aap90515 Derivativ
16	26	30.2	67	2	AAR36847	Aar36847 Insulin-l
17	26	30.2	69	3	AAY51168	Aay51168 Seq ID 2
18	26	30.2	70	1	AAP40034	Aap40034 Sequence
19	26	30.2	70	1	AAP71539	Aap71539 Sequence
20	26	30.2	70	1	AAP70414	Aap70414 Sequence
21	26	30.2	70	1	AAP93366	Aap93366 Analogue
22	26	30.2	70	1	AAP94660	Aap94660 Analogue
23	26	30.2	70	1	AAP94661	Aap94661 Analogue
24	26	30.2	70	1	AAP91502	Aap91502 New insul
25	26	30.2	70	2	AAR10586	Aar10586 Modified
26	26	30.2	70	2	AAR10587	Aar10587 Modified
27	26	30.2	70	2	AAR36846	Aar36846 Insulin-l
28	26	30.2	70	2	AAR41774	Aar41774 hIGF-I. 3
29	26	30.2	70	2	AAR43606	Aar43606 Peptide d
30	26	30.2	70	2	AAR55275	Aar55275 Sequence
31	26	30.2	70	2	AAR48590	Aar48590 Human IGF
32	26	30.2	70	2	AAR75657	Aar75657 Human ins
33	26	30.2	70	2	AAR89949	Aar89949 Recombina
34	26	30.2	70	2	AAR86874	Aar86874 Insulin l
35	26	30.2	70	2	AAR87744	Aar87744 Wild type
36	26	30.2	70	2	AAW33907	Aaw33907 Peptide d
37	26	30.2	70	2	AAW12342	Aaw12342 Human mat
38	26	30.2	70	3	AAB09616	Aab09616 Insulin l
39	26	30.2	70	3	AAY88577	Aay88577 Native hu
40	26	30.2	70	3	AAY84871	Aay84871 Amino aci
41	26	30.2	70	3	AAB12769	Aab12769 Human ins
42	26	30.2	70	3	AAB12772	Aab12772 Human ins
43	26	30.2	70	4	AAB35948	Aab35948 IGF-1A am
44	26	30.2	70	4	AAB35949	Aab35949 IGF-1B am
45	26	30.2	70	5	AAE18374	Aae18374 Human mat
46	26	30.2	70	5	AAM48217	Aam48217 Human ins
47	26	30.2	70	5	AAE27890	Aae27890 Human cod
48	26	30.2	70	5	AAE28004	Aae28004 Human cod
49	26	30.2	70	5	AAB71497	Aab71497 Human IGF
50	26	30.2	70	5	ABG76349	Abg76349 Human ful
51	26	30.2	70	5	AAU90781	Aau90781 Insulin/i
52	26	30.2	70	6	AAO16314	Aao16314 Insulin-l
53	26	30.2	71	1	AAP50872	Aap50872 Synthetic
54	26	30.2	71	1	AAP81212	Aap81212 Insulin-l
55	26	30.2	71	1	AAP81203	Aap81203 Synthetic
56	26	30.2	71	1	AAP94729	Aap94729 Analogue
57	26	30.2	71	2	AAR05281	Aar05281 Amino aci
58	26	30.2	71	2	AAR21709	Aar21709 Insulin-l
59	26	30.2	71	4	AAG62611	Aag62611 Human ins
60	26	30.2	72	2	AAR63194	Aar63194 Insulin-l
61	26	30.2	74	2	AAR13759	Aar13759 Beta-gal/
62	26	30.2	75	2	AAR41776	Aar41776 Modified
63	26	30.2	76	2	AAR13758	Aar13758 Beta-gal
64	26	30.2	78	1	AAP81213	Aap81213 Insulin-l
65	26	30.2	78	3	AAY98482	Aay98482 Pep 17 us
66	26	30.2	78	3	AAY59027	Aay59027 Peptide l
67	26	30.2	78	4	AAB45835	Aab45835 Nucleic a
68	26	30.2	78	4	AAU04272	Aau04272 Nuclear l
69	26	30.2	79	3	AAY43744	Aay43744 Amino aci
70	26	30.2	80	3	AAY43746	Aay43746 Amino aci
71	26	30.2	83	2	AAR51454	Aar51454 Long R3 I
72	26	30.2	84	3	AAY43745	Aay43745 Amino aci
73	26	30.2	89	1	AAP40026	Aap40026 Fusion pr
74	26	30.2	90	1	AAP40024	Aap40024 Short fus
75	26	30.2	94	2	AAR53782	Aar53782 IGF-1 fus
76	26	30.2	94	2	AAR51474	Aar51474 lamB sign
77	26	30.2	95	2	AAR37549	Aar37549 Sequence
78	26	30.2	95	2	AAW67492	Aaw67492 lamB sign
79	26	30.2	95	4	AAG63726	Aag63726 Amino aci
80	26	30.2	95	7	ADD84794	Add84794 Polypepti
81	26	30.2	101	1	AAP82123	Aap82123 Fusion pr
82	26	30.2	105	4	AAE02452	Aae02452 Rabbit li
83	26	30.2	105	4	AAE02450	Aae02450 Human liv
84	26	30.2	105	4	AAE02456	Aae02456 Rabbit li
85	26	30.2	105	5	AAU10562	Aau10562 Human ins
86	26	30.2	105	5	AAU10564	Aau10564 Rabbit in
87	26	30.2	105	7	ABR63172	Abr63172 Rabbit li
88	26	30.2	105	7	ABR63170	Abr63170 Human liv
89	26	30.2	110	4	AAE02447	Aae02447 Human IGF
90	26	30.2	110	5	AAU10559	Aau10559 Human mec
91	26	30.2	110	7	ABR63167	Abr63167 Human mec
92	26	30.2	111	4	AAE02449	Aae02449 Rabbit IG
93	26	30.2	111	5	AAU10561	Aau10561 Rabbit me
94	26	30.2	111	7	ABR63169	Abr63169 Rabbit me
95	26	30.2	118	2	AAW09772	Aaw09772 Killer to
96	26	30.2	121	2	AAW23301	Aaw23301 Rabbit in
97	26	30.2	131	2	AAR63193	Aar63193 hEGF-ST-I
98	26	30.2	133	1	AAP50927	Aap50927 Human ins

99	26	30.2	137	1	AAP50926	Aap50926 Human ins
100	26	30.2	137	1	AAP70101	Aap70101 Sequence

ALIGNMENTS

RESULT 1
AAE02448
ID AAE02448 standard; protein; 111 AA.
XX
AC AAE02448;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB004354.
XX
PR 15-NOV-1999; 99GB-00026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06399.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,
PT capable of reducing motoneurone loss, in the manufacture of a medicament
PT for the treatment of neurological disorder.
XX
PS Claim 4; Page 52; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF), an
CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The
CC present sequence is rat IGF-I isoform MGF. MGF is a muscle isoform having
CC extracellular (Ec) domain, hence also referred as IGF-I-Ec. The MGF
CC protein comprises amino acid sequences encoded by nucleic acid sequence
CC of IGF-I exons 4, 5 and 6 in the reading frame of MGF
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 86; DB 4; Length 111;
Best Local Similarity 100.0%; Pred. No. 1.7e-82;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy         61 KSQPLSTHKKRKLQRRRKGSTLEEHK 86
              ||||||||||||||||||||||||||
Db         86 KSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

RESULT 2
AAU10560
ID AAU10560 standard; protein; 111 AA.
XX
AC AAU10560;
XX
DT 25-FEB-2002 (first entry)
XX
DE Rat mechano-growth factor (MGF) polypeptide.
XX
KW Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.
XX
OS Rattus sp.
XX
PN WO200185781-A2.
XX
PD 15-NOV-2001.
XX
PF 10-MAY-2001; 2001WO-GB002054.
XX
PR 10-MAY-2000; 2000GB-00011278.
XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16878.
XX
PT Use of insulin-like growth factor-I (IGF-I) isoform known as mechano
PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to
PT reduce motoneurone loss in response to nerve avulsion, to treat nerve
PT damage.
XX
PS Claim 11; Fig 6; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I (IGF-
CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a
CC medicament for treating nerve damage in the peripheral nervous system, or
CC for treating nerve damage by localising MGF at the site of damage. The
CC nerve damage may include severing of a nerve. The treatment may be
CC combined with another treatment (such as a polypeptide growth factor
CC other than MGF) that prevents or diminishes degeneration of the target
CC organ (for example, muscle) which the damaged nerve innervates, whereby
CC the treatment of the muscle with MGF or a polynucleotide encoding MGF
CC prevents or diminishes degeneration. The method is useful for treating
CC neurological disorders, preferably motorneuron disorders. These methods
CC can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rat MGF polypeptide
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 86; DB 5; Length 111;
Best Local Similarity 100.0%; Pred. No. 1.7e-82;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85
```

```
Qy          61 KSQPLSTHKKRKLQRRRKGSTLEEHK 86
               ||||||||||||||||||||||||||
Db          86 KSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

RESULT 3
ABR63168
ID ABR63168 standard; protein; 111 AA.
XX
AC ABR63168;
XX
DT 18-DEC-2003 (first entry)
XX
DE Rat mechano growth factor (C-terminal end).
XX
KW Mechano growth factor; MGF; insulin-like growth factor 1; rat;
KW splice variant; cardiant; vasotropic; gene therapy.
XX
OS Rattus sp.
XX
PN WO2003066082-A1.
XX
PD 14-AUG-2003.
XX
PF 06-FEB-2003; 2003WO-GB000537.
XX
PR 07-FEB-2002; 2002GB-00002906.
XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (UNII) UNIV ILLINOIS FOUND.
XX
PI Goldspink G, Goldspink P;
XX
DR WPI; 2003-636936/60.
DR N-PSDB; ACF79636.
XX
PT Use of Mechano Growth Factor polypeptide or polynucleotide for preventing
PT or limiting apoptosis in the myocardium, particularly for preventing or
PT limiting myocardial damage in response to ischemia or mechanical overload
PT of the heart.
XX
PS Claim 5; Fig 8; 74pp; English.
XX
CC The present sequence is that of the C-terminal end of novel rat mechano
CC growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a
CC splice variant and non-liver type isoform of insulin-like growth factor
CC (IGF-I) that is activated in response to cardiac tissue damage and which
CC has a repair function in the ischaemic and/or overloaded heart. The rat
CC MGF transcript has a 52 base insert in the E domain that alters the
CC reading frame and hence the C-terminal end of MGF protein in comparison
CC with other IGF-I splice variants. The invention provides use of a MGF
CC polypeptide or polynucleotide in the manufacture of a medicament for the
CC prevention or limitation of myocardial damage in response to ischaemia or
CC mechanical overload of the heart by preventing or limiting apoptosis in
CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also
CC useful for administration in response to a heart attack
XX
SQ Sequence 111 AA;

```
  Query Match             100.0%;  Score 86;  DB 7;  Length 111;
  Best Local Similarity   100.0%;  Pred. No. 1.7e-82;
  Matches   86;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy         61 KSQPLSTHKKRKLQRRRKGSTLEEHK 86
              ||||||||||||||||||||||||||
Db         86 KSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

RESULT 4
AAE02531
ID AAE02531 standard; protein; 105 AA.
XX
AC AAE02531;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat liver-type IGF-I isoform (L.IGF-I) protein, alternative version.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS Rattus sp.
XX
FH Key   Location/Qualifiers
FT Misc-difference 102
FT   /note= "Encoded by ACC"
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB004354.
XX
PR 15-NOV-1999; 99GB-00026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06404.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,
PT capable of reducing motoneurone loss, in the manufacture of a medicament
PT for the treatment of neurological disorder.
XX
PS Disclosure; Fig 9; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF), an
CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The
CC present sequence is alternative version of rat liver-type IGF-I isoform
CC (L.IGF-I). The L.IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6. Note: The present sequence
CC is stated as being the same as SEQ ID NO: 12 shown in sequence listing
CC (AAE02451) of the specification. However it differs at a single position
XX
SQ Sequence 105 AA;

```
  Query Match             70.9%;  Score 61;  DB 4;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-56;
  Matches   61;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
```

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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy          61 K 61
               |
Db          86 K 86


RESULT 5
AAE02451
ID   AAE02451 standard; protein; 105 AA.
XX
AC   AAE02451;
XX
DT   10-AUG-2001  (first entry)
XX
DE   Rat liver-type IGF-I isoform (L.IGF-I) protein.
XX
KW   Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW   mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW   amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW   poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW   nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW   sex-linked muscular dystrophy; peripheral neuropathy;
KW   Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS   Rattus sp.
XX
PN   WO200136483-A1.
XX
PD   25-MAY-2001.
XX
PF   15-NOV-2000; 2000WO-GB004354.
XX
PR   15-NOV-1999;   99GB-00026968.
XX
PA   (UNLO ) UNIV COLLEGE LONDON.
XX
PI   Goldspink G,  Johnson I;
XX
DR   WPI; 2001-355620/37.
DR   N-PSDB; AAD06404.
XX
PT   Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,
PT   capable of reducing motoneurone loss, in the manufacture of a medicament
PT   for the treatment of neurological disorder.
XX
PS   Disclosure; Page 58-59; 66pp; English.
XX
CC   The present invention relates to use of mechano-growth factor (MGF), an
CC   Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC   medicament for the treatment of neurological disorder. The MGF is capable
CC   of reducing motoneurone loss by 20% or greater in response to nerve
CC   avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC   rescue. The MGF polynucleotide and polypeptide are useful in the
CC   manufacture of a medicament for the treatment of a neurological disorder,
CC   including a disorder of motoneurones and/or neurodegenerative disorder,
CC   e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC   spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC   poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC   toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC   injury that affects motoneurones, motoneurone loss associated with aging,
CC   autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC   peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The
CC   present sequence is rat liver-type IGF-I isoform (L.IGF-I). The L.IGF-I
CC   protein comprises amino acid sequences encoded by nucleic acid sequence
CC   of IGF-I exons 4 and 6. Note: The present sequence (SEQ ID NO: 12) is
CC   stated as being the same as that shown in figure 9 (AAE02531) of the
CC   specification. However it differs at a single position
XX
SQ   Sequence 105 AA;

  Query Match             70.9%;  Score 61;  DB 4;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-56;
  Matches   61;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy           1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy          61 K 61
               |
Db          86 K 86


RESULT 6
AAU10563
ID   AAU10563 standard; protein; 105 AA.
XX
AC   AAU10563;
XX
DT   25-FEB-2002  (first entry)
XX
DE   Rat insulin-like growth factor I liver-type isoform (L.IGF-I).
XX
KW   Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW   neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW   muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW   nerve avulsion; insulin-like growth factor I liver-type isoform; L.IGF-I.
XX
OS   Rattus sp.
XX
PN   WO200185781-A2.
XX
PD   15-NOV-2001.
XX
PF   10-MAY-2001; 2001WO-GB002054.
XX
PR   10-MAY-2000; 2000GB-00011278.
XX
PA   (UNLO ) UNIV COLLEGE LONDON.
PA   (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI   Goldspink G,  Terenghi G;
XX
DR   WPI; 2002-055585/07.
DR   N-PSDB; AAS16883.
XX
PT   Use of insulin-like growth factor-I (IGF-I) isoform known as mechano
PT   growth factor which is encoded by IGF-I exons 4,5,6 and has ability to
PT   reduce motoneurone loss in response to nerve avulsion, to treat nerve
PT   damage.
XX
PS   Disclosure; Fig 9; 65pp; English.
XX
CC   The invention relates to the use of an insulin-like growth factor I (IGF-
CC   I) isoform, known as mechano-growth factor (MGF), in the manufacture of a
CC   medicament for treating nerve damage in the peripheral nervous system, or
CC   for treating nerve damage by localising MGF at the site of damage. The
CC   nerve damage may include severing of a nerve. The treatment may be
CC   combined with another treatment (such as a polypeptide growth factor
CC   other than MGF) that prevents or diminishes degeneration of the target
CC   organ (for example, muscle) which the damaged nerve innervates, whereby
CC   the treatment of the muscle with MGF or a polynucleotide encoding MGF
CC   prevents or diminishes degeneration. The method is useful for treating
CC   neurological disorders, preferably motorneuron disorders. These methods
CC   can reduce motoneuron loss by 20% or greater in response to nerve
CC   avulsion. This sequence represents the rat insulin-like growth factor I
CC   liver-type isoform (L.IGF-I) used in experiments on motoneuron loss
XX
SQ   Sequence 105 AA;

  Query Match             70.9%;  Score 61;  DB 5;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-56;
  Matches   61;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy         61 K 61
              |
Db         86 K 86


RESULT 7
ABR63171
ID   ABR63171 standard; protein; 105 AA.
XX
AC   ABR63171;
XX
DT   18-DEC-2003  (first entry)
XX
DE   Rat liver-type insulin-like growth factor 1 (C-terminal end).
XX
KW   Insulin-like growth factor 1; IGF-I; rat; mechano growth factor;
KW   cardiant; vasotropic; gene therapy.
XX
OS   Rattus sp.
XX
PN   WO2003066082-A1.
XX
PD   14-AUG-2003.
XX
PF   06-FEB-2003; 2003WO-GB000537.
XX
PR   07-FEB-2002; 2002GB-00002906.
XX
PA   (UNLO ) UNIV COLLEGE LONDON.
PA   (UNII ) UNIV ILLINOIS FOUND.
XX
PI   Goldspink G,  Goldspink P;
XX
DR   WPI; 2003-636936/60.
DR   N-PSDB; ACF79639.
XX
PT   Use of Mechano Growth Factor polypeptide or polynucleotide for preventing
PT   or limiting apoptosis in the myocardium, particularly for preventing or
PT   limiting myocardial damage in response to ischemia or mechanical overload
PT   of the heart.
XX
PS   Disclosure; Fig 11; 74pp; English.
XX
CC   The present sequence is the protein sequence of rat liver-specific
CC   insulin-like growth factor 1 (IGF-1) C-terminal region. It is encoded by
CC   exons 3, 4 and 6 of the IFG-I gene. The invention relates to a novel IGF-
CC   I splice variant, denoted mechano growth factor, a non-liver type isoform
CC   of IGF-I that is activated in response to cardiac tissue damage and which
CC   has a repair function in the ischaemic and/or overloaded heart. The rat
CC   MGF transcript has a 52 base insert in the E domain that alters the
CC   reading frame and hence the C-terminal end of MGF protein in comparison
CC   with other IGF-I splice variants. The invention provides use of a MGF
CC   polypeptide or polynucleotide in the manufacture of a medicament for the
CC   prevention or limitation of myocardial damage in response to ischaemia or
CC   mechanical overload of the heart by preventing or limiting apoptosis in
CC   the myocardium. The MGF polypeptide, polynucleotide or medicament is also
CC   useful for administration in response to a heart attack
XX
SQ   Sequence 105 AA;

  Query Match             70.9%;  Score 61;  DB 7;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-56;
  Matches   61;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         26 NKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVRCKPTKSARSIRAQRHTDMPKTQ 85

Qy         61 K 61
              |
Db         86 K 86


RESULT 8
ADE57466
ID   ADE57466 standard; protein; 181 AA.
XX
AC   ADE57466;
XX
DT   29-JAN-2004  (first entry)
XX
DE   Rat Protein P08024, SEQ ID NO 3327.
XX
KW   Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;
KW   chronic constriction injury; CCI; spared nerve injury; SNI; Chung.
XX
OS   Rattus norvegicus.
XX
PN   WO2003016475-A2.
XX
PD   27-FEB-2003.
XX
PF   14-AUG-2002; 2002WO-US025765.
XX
PR   14-AUG-2001; 2001US-0312147P.
PR   01-NOV-2001; 2001US-0346382P.
PR   26-NOV-2001; 2001US-0333347P.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
PA   (FARB ) BAYER AG.
XX
PI   Woolf C,  D'urso D,  Befort K,  Costigan M;
XX
DR   WPI; 2003-268312/26.
DR   GENBANK; P08024.
XX
PT   New composition comprising two or more isolated polypeptides, useful for
PT   preparing a medicament for treating pain in an animal.
XX
PS   Claim 1; Page; 1017pp; English.
XX
CC   The invention discloses a composition comprising two or more isolated rat
CC   or human polynucleotides or a polynucleotide which represents a fragment,
CC   derivative or allelic variation of the nucleic acid sequence. Also
CC   claimed are a vector comprising the novel polynucleotide, a host cell
CC   comprising the vector, a method for identifying a nucleotide sequence
CC   which is differentially regulated in an animal subjected to pain and a
CC   kit to perform the method, an array, a method for identifying an agent
CC   that increases or decreases the expression of the polynucleotide sequence
CC   that is differentially expressed in neuronal tissue of a first animal
CC   subjected to pain, a method for identifying a compound which regulates
CC   the expression of a polynucleotide sequence which is differentially
CC   expressed in an animal subjected to pain, a method for identifying a
CC   compound that regulates the activity of one or more of the
CC   polynucleotides, a method for producing a pharmaceutical composition, a
CC   method for identifying a compound or small molecule that regulates the
CC   activity in an animal of one or more of the polypeptides given in the
CC   specification, a method for identifying a compound useful in treating
CC   pain and a pharmaceutical composition comprising the one or more
CC   polypeptides or their antibodies. The polynucleotide or the compound that
CC   modulates its activity is useful for preparing a medicament for treating
CC   pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
CC   injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
CC   therapy). The sequence presented is a rat protein (shown in Table 2 of
CC   the specification) which is differentially expressed during pain. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic form directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 181 AA;

  Query Match             46.5%;  Score 40;  DB 7;  Length 181;
```

```
  Best Local Similarity   100.0%;  Pred. No. 7.6e-34;
  Matches   40;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         40 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 79
              ||||||||||||||||||||||||||||||||||||||||
Db        113 KPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 152


RESULT 9
ADA23373
ID   ADA23373 standard; protein; 127 AA.
XX
AC   ADA23373;
XX
DT   20-NOV-2003  (first entry)
XX
DE   Mouse insulin growth factor 1 amino acid sequence.
XX
KW   ligand; antibody; mechano-growth factor; MGF; inotropic; cardiant;
KW   cell signaling; muscle damage; muscular dystrophy; cardiac muscle damage;
KW   muscle fatigue; heart attack.
XX
OS   Mus sp.
XX
PN   WO2003068949-A1.
XX
PD   21-AUG-2003.
XX
PF   14-FEB-2003; 2003WO-GB000657.
XX
PR   14-FEB-2002; 2002GB-00003552.
XX
PA   (BEAU/) BEAUMONT N.
XX
PI   Beaumont N;
XX
DR   WPI; 2003-679637/64.
XX
PT   New peptides corresponding to the C terminus of creatine kinase have a
PT   similar function to mechano-growth factor and are useful to treat muscle
PT   damage such as exercise injury, muscular dystrophy and heart attack
PT   damage.
XX
PS   Disclosure; Fig 1; 21pp; English.
XX
CC   The present invention describes an isolated peptide capable of acting as
CC   a ligand for an antibody with affinity for the C-terminus of mechano-
CC   growth factor (MGF), for use in therapy, where the peptide is not MGF.
CC   Also described is an isolated peptide for use in therapy comprising the
CC   sequence (I) (X1)m(X2)n(X3)G(X4)(X5)(X6)(X7)2(X8)p, where X1 = a basic
CC   residue, X2 and X8 = any amino acid, X3 and X4 = Lys or Gln, X5 = Ser,
CC   Thr, Ala or Pro, X6 = Ile, Phe or Leu, X7 = Asp or Glu, m = 2 or 3, n = 0
CC   -2, and p = 2-6. (I) has inotropic and cardiant activities, and can be
CC   used in cell signaling. (I) can be used for the manufacture of a
CC   composition for the treatment of muscle damage, deterioration or injury,
CC   particularly damage to skeletal muscle, especially muscular dystrophy or
CC   damage to cardiac muscle, and to manufacture a composition for the repair
CC   of damage or loss of nerve cells. The peptide can be used in cell culture
CC   media to promote growth of muscle or nerve cell lines. The peptides are
CC   used to treat conditions associated with muscle fatigue and/or injury for
CC   example during exercise, and to treat muscle deterioration or damage for
CC   example after a heart attack. They may be useful to identify agents that
CC   potentiate or inhibit muscle or nerve cell growth, as a treatment to
CC   promote growth or repair of muscle or nerve cells in vivo and to inhibit
CC   apoptosis of precursor cells. The present sequence represents a mouse
CC   insulin growth factor 1 (IGF1) amino acid sequence, which is given in
CC   comparison with mouse MGF in the exemplification of the present
CC   invention.
XX
SQ   Sequence 127 AA;

  Query Match             36.0%;  Score 31;  DB 7;  Length 127;
  Best Local Similarity   100.0%;  Pred. No. 1.7e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83


RESULT 10
ABP58085
ID   ABP58085 standard; protein; 133 AA.
XX
AC   ABP58085;
XX
DT   07-MAR-2003  (first entry)
XX
DE   Mouse insulin-like growth factor IB.
XX
KW   Insulin-like growth factor IB; IGF-IB; mouse; mRNA; assay;
KW   nucleic acid detection.
XX
OS   Mus musculus.
XX
PN   WO200297390-A2.
XX
PD   05-DEC-2002.
XX
PF   31-MAY-2002; 2002WO-SE001056.
XX
PR   01-JUN-2001; 2001SE-00001934.
XX
PA   (BIOV-) BIOVITRUM AB.
XX
PI   Parrow V,  Rosengren L;
XX
DR   WPI; 2003-129529/12.
DR   N-PSDB; ABV76185.
XX
PT   Quantitating a target nucleic acid in a sample comprises immobilizing, on
PT   a solid support, a sample comprising a target nucleic acid, and detecting
PT   and quantitating signals generated from the antisense and sense probes.
XX
PS   Example 1; Page 17; 18pp; English.
XX
CC   The present sequence is the protein sequence of murine insulin-like
CC   growth factor 1B (IGF-IB). IGF-IB cDNA was used in an example of the
CC   method of the invention to generate probes for determination of IGF-IB
CC   RNA. The method comprises a quantitative hybridisation assay for analysis
CC   of mRNA in a target nucleic acid (TNA) sample. It involves: (i)
CC   immobilising the TNA sample on a solid support; (ii) contacting a
CC   labelled antisense probe to a first portion of the TNA, and a labelled
CC   sense probe to a second portion of the TNA; (iii) detecting and
CC   quantitating the signals generated from the hybridised probes; and (iv)
CC   determining the value represented by the antisense probe signal minus the
CC   sense probe signal, the value being proportional to the amount of mRNA in
CC   the TNA sample. In an example of the method, a cDNA clone containing 60
CC   nucleotides from exon 2 and 179 nucleotides from exon 3 of the mouse IGF-
CC   IB gene was cloned into pGEN-4Z vector. Linearisation of the plasmid with
CC   EcoRI allowed transcription of a 250-nucleotide antisense probe using T7
CC   polymerase. Linearisation with HindIII allowed transcription of a sense
CC   probe of similar length using SP6 polymerase (see ABV76186). The probes
CC   were purified and used to determine IGF-I RNA in mouse hepatocytes and
CC   also in rat hepatocytes
XX
SQ   Sequence 133 AA;

  Query Match             36.0%;  Score 31;  DB 6;  Length 133;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              |||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83
```

```
RESULT 11
ADA23374
ID   ADA23374 standard; protein; 133 AA.
XX
AC   ADA23374;
XX
DT   20-NOV-2003  (first entry)
XX
DE   Mouse MGF amino acid sequence.
XX
KW   ligand; antibody; mechano-growth factor; MGF; inotropic; cardiant;
KW   cell signaling; muscle damage; muscular dystrophy; cardiac muscle damage;
KW   muscle fatigue; heart attack.
XX
OS   Mus sp.
XX
PN   WO2003068949-A1.
XX
PD   21-AUG-2003.
XX
PF   14-FEB-2003; 2003WO-GB000657.
XX
PR   14-FEB-2002; 2002GB-00003552.
XX
PA   (BEAU/) BEAUMONT N.
XX
PI   Beaumont N;
XX
DR   WPI; 2003-679637/64.
XX
PT   New peptides corresponding to the C terminus of creatine kinase have a
PT   similar function to mechano-growth factor and are useful to treat muscle
PT   damage such as exercise injury, muscular dystrophy and heart attack
PT   damage.
XX
PS   Disclosure; Fig 1; 21pp; English.
XX
CC   The present invention describes an isolated peptide capable of acting as
CC   a ligand for an antibody with affinity for the C-terminus of mechano-
CC   growth factor (MGF), for use in therapy, where the peptide is not MGF.
CC   Also described is an isolated peptide for use in therapy comprising the
CC   sequence (I) (X1)m(X2)n(X3)G(X4)(X5)(X6)(X7)2(X8)p, where X1 = a basic
CC   residue, X2 and X8 = any amino acid, X3 and X4 = Lys or Gln, X5 = Ser,
CC   Thr, Ala or Pro, X6 = Ile, Phe or Leu, X7 = Asp or Glu, m = 2 or 3, n = 0
CC   -2, and p = 2-6. (I) has inotropic and cardiant activities, and can be
CC   used in cell signaling. (I) can be used for the manufacture of a
CC   composition for the treatment of muscle damage, deterioration or injury,
CC   particularly damage to skeletal muscle, especially muscular dystrophy or
CC   damage to cardiac muscle, and to manufacture a composition for the repair
CC   of damage or loss of nerve cells. The peptide can be used in cell culture
CC   media to promote growth of muscle or nerve cell lines. The peptides are
CC   used to treat conditions associated with muscle fatigue and/or injury for
CC   example during exercise, and to treat muscle deterioration or damage for
CC   example after a heart attack. They may be useful to identify agents that
CC   potentiate or inhibit muscle or nerve cell growth, as a treatment to
CC   promote growth or repair of muscle or nerve cells in vivo and to inhibit
CC   apoptosis of precursor cells. The present sequence represents a mouse MGF
CC   amino acid sequence, which is given in comparison with mouse insulin
CC   growth factor 1 (IGF1) in the exemplification of the present invention.
XX
SQ   Sequence 133 AA;

  Query Match             36.0%;  Score 31;  DB 7;  Length 133;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||||||
Db         53 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 83

RESULT 12
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```
ADD47095
ID   ADD47095 standard; protein; 153 AA.
XX
AC   ADD47095;
XX
DT   29-JAN-2004  (first entry)
XX
DE   Rat Protein AAA41387, SEQ ID NO 12783.
XX
KW   Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;
KW   chronic constriction injury; CCI; spared nerve injury; SNI; Chung.
XX
OS   Rattus norvegicus.
XX
PN   WO2003016475-A2.
XX
PD   27-FEB-2003.
XX
PF   14-AUG-2002; 2002WO-US025765.
XX
PR   14-AUG-2001; 2001US-0312147P.
PR   01-NOV-2001; 2001US-0346382P.
PR   26-NOV-2001; 2001US-0333347P.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
PA   (FARB ) BAYER AG.
XX
PI   Wcolf C,  D'urso D,  Befort K,  Costigan M;
XX
DR   WPI; 2003-268312/26.
DR   GENBANK; AAA41387.
XX
PT   New composition comprising two or more isolated polypeptides, useful for
PT   preparing a medicament for treating pain in an animal.
XX
PS   Claim 1; Page; 1017pp; English.
XX
CC   The invention discloses a composition comprising two or more isolated rat
CC   or human polynucleotides or a polynucleotide which represents a fragment,
CC   derivative or allelic variation of the nucleic acid sequence. Also
CC   claimed are a vector comprising the novel polynucleotide, a host cell
CC   comprising the vector, a method for identifying a nucleotide sequence
CC   which is differentially regulated in an animal subjected to pain and a
CC   kit to perform the method, an array, a method for identifying an agent
CC   that increases or decreases the expression of the polynucleotide sequence
CC   that is differentially expressed in neuronal tissue of a first animal
CC   subjected to pain, a method for identifying a compound which regulates
CC   the expression of a polynucleotide sequence which is differentially
CC   expressed in an animal subjected to pain, a method for identifying a
CC   compound that regulates the activity of one or more of the
CC   polynucleotides, a method for producing a pharmaceutical composition, a
CC   method for identifying a compound or small molecule that regulates the
CC   activity in an animal of one or more of the polypeptides given in the
CC   specification, a method for identifying a compound useful in treating
CC   pain and a pharmaceutical composition comprising the one or more
CC   polypeptides or their antibodies. The polynucleotide or the compound that
CC   modulates its activity is useful for preparing a medicament for treating
CC   pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
CC   injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
CC   therapy). The sequence presented is a rat protein (shown in Table 2 of
CC   the specification) which is differentially expressed during pain. Note:
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic form directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 153 AA;

  Query Match             36.0%;  Score 31;  DB 7;  Length 153;
  Best Local Similarity   100.0%;  Pred. No. 2e-24;
  Matches   31;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          6 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||||||
```

```
Db         79 YGSSIRRAPQTGIVDECCFRSCDLRRLEMYC 109


RESULT 13
AAP80433
ID   AAP80433 standard; protein; 36 AA.
XX
AC   AAP80433;
XX
DT   09-JAN-2003  (revised)
DT   14-SEP-1990  (first entry)
XX
DE   Sequence of C-terminal portion of mature insulin-like growth factor-I
DE   (IGF-I).
XX
KW   Insulin-like growth factor-I (IGF-I); high level accumulation of protein.
XX
OS   Unidentified.
XX
PN   EP288451-A.
XX
PD   26-OCT-1988.
XX
PF   22-APR-1988;   88EP-00870067.
XX
PR   23-APR-1987;   87US-00041896.
XX
PA   (MONS ) MONSANTO CO.
XX
PI   Wong E,  Bittner ML;
XX
DR   WPI; 1988-301453/43.
DR   N-PSDB; AAN80985.
XX
PT   Producing insulin-like growth factor-I in Gram-negative bacteria - using
PT   a gene comprising DNA encoding a lam b or omp f signal sequence linked to
PT   the coding sequence.
XX
PS   Example 1; Fig 1; 16pp; English.
XX
CC   The synthetic dsDNA encoding this portion of IGF-I was ligated to
CC   synthetic dsDNA encoding the N-terminal portion. A synthetic DNA sequence
CC   encoding the lamB or ompF signal sequence can be operatively joined,
CC   using, e.g. ligase to a DNA sequence encoding IGF-I. Expression vectors
CC   contg. the synthetic gene are then used to transform Gram negative host
CC   cells such as E. coli. The lamB and ompF signal sequences provide for
CC   site-specific release of the signal sequence from the IGF-I protein so
CC   that the IGF-I protein can be released into and accumulate at relatively
CC   high levels in the periplasmic space of selected bacteria. (Updated on 09
CC   -JAN-2003 to add missing OS field.)
XX
SQ   Sequence 36 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 36;
  Best Local Similarity   100.0%;  Pred. No. 1.1e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db          2 RRAPQTGIVDECCFRSCDLRRLEMYC 27


RESULT 14
AAP60718
ID   AAP60718 standard; protein; 38 AA.
XX
AC   AAP60718;
XX
DT   22-JUL-1991  (first entry)
XX
DE   Synthetic sequence of C-terminal end (fragment B) of human f-met-
DE   somatomedin C (SMC) on pLc24muSMC_ori.
XX
KW   Hormone; growth stimulator; expression vector.
XX
OS   Homo sapiens.
XX
PN   WO8605810-A.
XX
PD   09-OCT-1986.
XX
PF   25-MAR-1986;   86WO-US000579.
XX
PR   26-MAR-1985;   85GB-00007833.
XX
PA   (BIOJ ) BIOGEN NV.
PA   (BUEL/) BUELL G N.
XX
PI   Buell G,  Movva N;
XX
DR   WPI; 1986-278823/42.
DR   N-PSDB; AAN60677.
XX
PT   Optical prodn. of polypeptide esp. somatomedin C - replacing portion of N
PT   -terminal end of DNA sequence encoding easily assayable polypeptide.
XX
PS   Example; Fig 2; 38pp; English.
XX
CC   The easily assayable polypeptide is e.g. beta-galactosidase,
CC   galactokinase or drug resistance markers. In a pref. system the DNA
CC   sequence codes for an SMC-like polypeptide and is selected from the DNA
CC   inserts of pLC24muSMC1 through pLC24muSMC10
XX
SQ   Sequence 38 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db          4 RRAPQTGIVDECCFRSCDLRRLEMYC 29


RESULT 15
AAP90515
ID   AAP90515 standard; peptide; 62 AA.
XX
AC   AAP90515;
XX
DT   25-MAR-2003  (revised)
DT   06-JUN-1990  (first entry)
XX
DE   Derivative of insulin-like growth factor-1 (IGF-1).
XX
KW   Insulin-like growth factor-1; IGF-1; growth promoter; tissue restoration;
KW   disulpide bond.
XX
OS   Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Disulfide-bond  6
FT                   /note= "bonded to Cys-47"
FT   Disulfide-bond  18
FT                   /note= "Bonded to Cys-61"
FT   Disulfide-bond  47
FT                   /note= "Bonded to Cys-6"
FT   Disulfide-bond  48
FT                   /note= "Bonded to Cys-52"
FT   Disulfide-bond  52
FT                   /note= "Bonded to Cys-48"
FT   Disulfide-bond  61
FT                   /note= "Bonded to Cys-18"
FT   Misc-difference 62
FT                   /label= OTHER
FT                   /note= "Ala-NH2 or Ala-OH"
```

XX
PN JP01063597-A.
XX
PD 09-MAR-1989.
XX
PF 03-SEP-1987; 87JP-00221607.
XX
PR 03-SEP-1987; 87JP-00221607.
XX
PA (SUMU) SUMITOMO SEIYAKU KK.
XX
DR WPI; 1989-118308/16.
XX
PT New insulin-like growth factor-1 derivs. - obtd. by condensn. of
PT aminoacid units.
XX
PS Disclosure; Page 1; 11pp; Japanese.
XX
CC It is synthesised by amino acid condensation. Its functional groups not
CC concerned in the reaction are protected, and each protecting gp. is
CC removed after the reaction. Disulphide bridging is made between Cys
CC residues by oxidation. It is useful as a growth promoter and tissue
CC restoration agent. It does not have insulin-like activity. (Updated on 25
CC -MAR-2003 to correct PA field.)
XX
SQ Sequence 62 AA;

Query Match 30.2%; Score 26; DB 1; Length 62;
Best Local Similarity 100.0%; Pred. No. 1.7e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 16
AAR36847
ID AAR36847 standard; peptide; 67 AA.
XX
AC AAR36847;
XX
DT 25-MAR-2003 (revised)
DT 02-SEP-1993 (first entry)
XX
DE Insulin-like growth factor-I functional derivative.
XX
KW IGF-I; disorder; treatment; survival; retinal neuronal cells; promotion;
KW injury; ageing; disease; photodegeneration; trauma; axotomy;
KW neurotoxic-excitatory degeneration; diabetic retinopathy;
KW ischemic neuronal degeneration; inherited retinal dystrophy;
KW Alzheimer's disease; infantile malignant osteopetrosis; cholestasis;
KW ceroid-lipofuscosis.
XX
OS Homo sapiens.
XX
PN WO9308826-A1.
XX
PD 13-MAY-1993.
XX
PF 03-NOV-1992; 92WO-US009443.
XX
PR 08-NOV-1991; 91US-00790690.
PR 15-OCT-1992; 92US-00963329.
XX
PA (CEPH-) CEPHALON INC.
XX
PI Bozyczko-Coyne D, Neff N, Lewis ME, Iqbal M;
XX
DR WPI; 1993-167389/20.
XX
PT Use of IGF-I or IGF-II or their functional derivs. - for treating
PT disorders characterised by death and/or dysfunction of retinal cells.
XX
PS Example; Page 50; 97pp; English.
XX
CC The sequence is that of a functional derivative of human insulin-like
CC growth factor (IGF)-I which promotes the survival of retinal neuronal
CC cells. It can be used for the treatment of retinal neuronal tissues which
CC are suffering from the effects of injury, ageing and/or disease such as
CC photodegeneration, trauma, axotomy, neurotoxic-excitatory degeneration,
CC ischemic neuronal degeneration, inherited retinal dystrophy, diabetic
CC retinopathy, Alzheimer's disease, infantile malignant osteopetrosis,
CC ceroid lipofuscosis or cholestasis. (Updated on 25-MAR-2003 to correct PN
CC field.)
XX
SQ Sequence 67 AA;

Query Match 30.2%; Score 26; DB 2; Length 67;
Best Local Similarity 100.0%; Pred. No. 1.8e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 33 RRAPQTGIVDECCFRSCDLRRLEMYC 58

RESULT 17
AAY51168
ID AAY51168 standard; protein; 69 AA.
XX
AC AAY51168;
XX
DT 31-MAR-2000 (first entry)
XX
DE Seq ID 2 used in the isolation of insulin-like growth factor.
XX
KW Insulin-like growth factor-1; yeast; human; alpha-factor;
KW ethanol dehydrogenase.
XX
OS Unidentified.
XX
PN CN1229133-A.
XX
PD 22-SEP-1999.
XX
PF 18-MAR-1998; 98CN-00106111.
XX
PR 18-MAR-1998; 98CN-00106111.
XX
PA (SHEN-) SHENGBAIAO BIOTECHNOLOGY INST BEIJING.
XX
PI Huang L, Zhu Y;
XX
DR WPI; 2000-087760/08.
DR N-PSDB; AAZ44266.
XX
PT Insulin-like growth factor-1 bacterial expression system and method for
PT preparation of insulin-like growth factor-1.
XX
PS Claim 3; Page 2; 23pp; Chinese.
XX
CC This invention describes a novel engineered fungal strain of human
CC insulin-like growth factor-1 and a process for preparing human insulin-
CC like growth factor-1 with the fungus. The engineered fungus is a beer
CC yeast cell, which contains the gene sequence of human insulin-like growth
CC factor-1, which is able to encode 69 amino acids. The 5' end of the gene
CC sequence is connected with an alpha-factor leading peptide sequence,
CC before which a Kozak order is fused. It is then cloned to a position
CC downstream of an ethanol dehydrogenase promoter to form the expression
CC carrier. Finally,beer yeast cells are transformed to obtain the genetic
CC engineered fungus strain BJ-IGF-1, which can secrete human insulin-like
CC growth factor-1. This sequence represents a protein used to illustrate
CC the method of the invention
XX
SQ Sequence 69 AA;

```
  Query Match             30.2%;  Score 26;  DB 3;  Length 69;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 18
AAP40034
ID   AAP40034 standard; protein; 70 AA.
XX
AC   AAP40034;
XX
DT   25-MAR-2003  (revised)
DT   02-FEB-1992  (first entry)
XX
DE   Sequence of human insulin-like growth factor I (IGF-I).
XX
KW   Yeast expression vector; somatic growth; growth promoter.
XX
OS   Homo sapiens.
XX
PN   EP123228-A.
XX
PD   31-OCT-1984.
XX
PF   13-APR-1984;   84EP-00104175.
XX
PR   25-APR-1983;   83US-00487950.
XX
PA   (CHIR ) CHIRON CORP.
XX
PI   Barr PJ,  Merryweath JP,  Mullenbach G,  Urdea MS;
XX
DR   WPI; 1984-271223/44.
DR   N-PSDB; AAN40026.
XX
PT   Prodn. of human insulin-like growth factors - by DNA recombinant method,
PT   utilising yeast transformant.
XX
PS   Disclosure; Page 23; 24pp; English.
XX
CC   The inventors claim a DNA construct which comprises AAN40026 or AAN40027.
CC   The DNA constructs are stably replicated in yeasts in which pre-
CC   polypeptides form in high yield. The yeast cells are then able to process
CC   the pre-forms to the mature IGF. (Updated on 25-MAR-2003 to correct PA
CC   field.)
XX
SQ   Sequence 70 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 19
AAP71539
ID   AAP71539 standard; protein; 70 AA.
XX
AC   AAP71539;
XX
DT   25-MAR-2003  (revised)
DT   10-MAR-2003  (revised)
DT   26-MAY-1991  (first entry)
XX
DE   Sequence of human insulin-like growth factor I (IGF-I).
XX
KW   Hormone; growth promoter.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Disulfide-bond  6. .47
FT   Disulfide-bond  18. .61
FT   Disulfide-bond  48. .52
XX
PN   JP62169733-A.
XX
PD   25-JUL-1987.
XX
PF   22-JAN-1986;   86JP-00011280.
XX
PR   22-JAN-1986;   86JP-00011280.
XX
PA   (FUJI ) FUJISAWA PHARM CO LTD.
XX
DR   WPI; 1987-246982/35.
XX
PT   Human insulin-growth factor, which has a new prim. structure - is prepd.
PT   by oxidising reduced form IGF-I and treating the obtd. cpds. by e.g.
PT   chromatography, and is used for incorporating thymidine.
XX
PS   Claim 2; Page 1; 6pp; Japanese.
XX
CC   The IGF-I (and its salts) has strong effect for acceleration of thymidine
CC   incorporation into animal cells, suggesting that it has strong growth
CC   promoting effect. However it has no blood sugar lowering effect. (Updated
CC   on 10-MAR-2003 to add missing OS field.) (Updated on 25-MAR-2003 to
CC   correct PA field.)
XX
SQ   Sequence 70 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 20
AAP70414
ID   AAP70414 standard; protein; 70 AA.
XX
AC   AAP70414;
XX
DT   25-MAR-2003  (revised)
DT   19-FEB-1991  (first entry)
XX
DE   Sequence of oxidative human insulin-like growth factor I (IGF-I) (A
DE   type).
XX
KW   Hormone; sanatomedin.
XX
OS   Homo sapiens.
XX
PN   JP62190199-A.
XX
PD   20-AUG-1987.
XX
PF   14-FEB-1986;   86JP-00031512.
XX
PR   14-FEB-1986;   86JP-00031512.
XX
PA   (FUJI ) FUJISAWA PHARM CO LTD.
XX
DR   WPI; 1987-273817/39.
XX
```

PT Human insulin like growth factor I prodn. - by oxidising reductive human
PT insulin-like growth factor.
XX
PS Claim 2; Page 935; 6pp; Japanese.
XX
CC The production of IGF-I-A by oxidising reductive human insulin-like
CC growth factor in a buffer soln. and separating I-A from the reaction
CC soln. is improved by the presence of an organic solvent which can
CC dissolve in the buffer soln. in the reaction system. (Updated on 25-MAR-
CC 2003 to correct PA field.)
XX
SQ Sequence 70 AA;

Query Match 30.2%; Score 26; DB 1; Length 70;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 21
AAP93366
ID AAP93366 standard; protein; 70 AA.
XX
AC AAP93366;
XX
DT 17-JUL-1990 (first entry)
XX
DE Analogue IGF122 of human insulin-like growth factor-I (hIGF-I).
XX
KW Synthetic gene; human insulin-like growth factor I; IGF122; Analogue B;
KW lactation enhancer; growth promoter; wound healing; erythropoiesis.
XX
OS Homo sapiens.
XX
PN EP309050-A.
XX
PD 29-MAR-1989.
XX
PF 16-SEP-1988; 88EP-00202032.
XX
PR 21-SEP-1987; 87US-00099367.
XX
PA (MERI) MERCK & CO INC.
XX
PI Applebaum JD, Bayne ML, Cascieri MA;
XX
DR WPI; 1989-095235/13.
DR N-PSDB; AAN90689.
XX
PT Human insulin-like growth factor analogues - have higher activity due to
PT reduced affinity for serum components while retaining affinity to type I
PT receptor.
XX
PS Disclosure; Page ?; 27pp; English.
XX
CC It is a synthetic polypeptide analogue of hIGF-I called IGF122 or
CC Analogue B. Analogue B retains nearly full activity at the type I IGF
CC receptor but does not bind to serum components. It is considerably more
CC active than wild-type hIGF-I. It is highly active as an agent to increase
CC the yield and efficiency of milk prodn. esp. in cows. It is also used as
CC a growth promotant, to promote wound healing and to stimulate
CC erythropoiesis. It is produced by chemical synthesis or recombinant DNA
CC techniques using IGF-I DNA sequences prepd. synthetically, chromosomally
CC or by recombinant DNA techniques, to transform bacterial, yeast or tissue
CC culture cell lines. A synthetic gene for Analogue B is claimed in Claim
CC 12
XX
SQ Sequence 70 AA;

Query Match 30.2%; Score 26; DB 1; Length 70;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 22
AAP94660
ID AAP94660 standard; protein; 70 AA.
XX
AC AAP94660;
XX
DT 17-JUL-1990 (first entry)
XX
DE Analogue IGF252 of human insulin-like growth factor-I (hIGF-I).
XX
KW Synthetic gene; human insulin-like growth factor I; IGF252; Analogue D;
KW lactation enhancer; growth promoter; wound healing; erythropoiesis.
XX
OS Homo sapiens.
XX
PN EP309050-A.
XX
PD 29-MAR-1989.
XX
PF 16-SEP-1988; 88EP-00202032.
XX
PR 21-SEP-1987; 87US-00099367.
XX
PA (MERI) MERCK & CO INC.
XX
PI Applebaum JD, Bayne ML, Cascieri MA;
XX
DR WPI; 1989-095235/13.
DR N-PSDB; AAN90691.
XX
PT Human insulin-like growth factor analogues - have higher activity due to
PT reduced affinity for serum components while retaining affinity to type I
PT receptor.
XX
PS Disclosure; Page; 27pp; English.
XX
CC It is a synthetic polypeptide analogue of hIGF-I called IGF252 or
CC Analogue D. Analogue D retains nearly full activity at the type I IGF
CC receptor but does not bind to serum components. It is considerably more
CC active than wild-type hIGF-I. It is highly active as an agent to increase
CC the yield and efficiency of milk prodn. esp. in cows. It is also used as
CC a growth promotant, to promote wound healing and to stimulate
CC erythropoiesis. It is produced by chemical synthesis or recombinant DNA
CC techniques using IGF-I DNA sequences prepd. synthetically, chromosomally
CC or by recombinant DNA techniques, to transform bacterial, yeast or tissue
CC culture cell lines. A synthetic gene for Analogue D is claimed in Claim
CC 16
XX
SQ Sequence 70 AA;

Query Match 30.2%; Score 26; DB 1; Length 70;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
||||||||||||||||||||||||||
Db 36 RRAPQTGIVDECCFRSCDLRRLEMYC 61

RESULT 23
AAP94661
ID AAP94661 standard; protein; 70 AA.
XX
AC AAP94661;
XX

```
DT   17-JUL-1990  (first entry)
XX
DE   Analogue IGF130 of human insulin-like growth factor-I (hIGF-I).
XX
KW   Synthetic gene; human insulin-like growth factor I; IGF130; Analogue C;
KW   lactation enhancer; growth promoter; wound healing; erythropoiesis.
XX
OS   Homo sapiens.
XX
PN   EP309050-A.
XX
PD   29-MAR-1989.
XX
PF   16-SEP-1988;   88EP-00202032.
XX
PR   21-SEP-1987;   87US-00099367.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Applebaum JD,  Bayne ML,  Cascieri MA;
XX
DR   WPI; 1989-095235/13.
DR   N-PSDB; AAN90690.
XX
PT   Human insulin-like growth factor analogues - have higher activity due to
PT   reduced affinity for serum components while retaining affinity to type I
PT   receptor.
XX
PS   Disclosure; Page ?; 27pp; English.
XX
CC   It is a synthetic polypeptide analogue of hIGF-I called IGF130 or
CC   Analogue C. Analogue C retains nearly full activity at the type I IGF
CC   receptor but does not bind to serum components. It is considerably more
CC   active than wild-type hIGF-I. It is highly active as an agent to increase
CC   the yield and efficiency of milk prodn. esp. in cows. It is also used as
CC   a growth promotant, to promote wound healing and to stimulate
CC   erythropoiesis. It is produced by chemical synthesis or recombinant DNA
CC   techniques using IGF-I DNA sequences prepd. synthetically, chromosomally
CC   or by recombinant DNA techniques, to transform bacterial, yeast or tissue
CC   culture cell lines. A synthetic gene for Analogue C is claimed in Claim
CC   14
XX
SQ   Sequence 70 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 24
AAP91502
ID   AAP91502 standard; peptide; 70 AA.
XX
AC   AAP91502;
XX
DT   25-MAR-2003  (revised)
DT   06-JUN-1990  (first entry)
XX
DE   New insulin-like growth factor-1 (IGF-I) deriv.
XX
KW   Insulin-like growth factor-I; IGF-I; derivative; disulphide bond;
KW   growth promoter; tissue repair.
XX
OS   Unidentified.
XX
FH   Key             Location/Qualifiers
FT   Disulfide-bond  6
FT                   /note= "Bonded to Cys-47"
FT   Disulfide-bond  18
FT                   /note= "Bonded to Cys-61"
FT   Disulfide-bond  47
FT                   /note= "Bonded to Cys-6"
FT   Disulfide-bond  48
FT                   /note= "Bonded to Cys-52"
FT   Disulfide-bond  52
FT                   /note= "Bonded to Cys-48"
FT   Disulfide-bond  61
FT                   /note= "Bonded to Cys-18"
FT   Misc-difference 70
FT                   /label= OTHER
FT                   /note= "Ala-NH2 or Ala-OH"
XX
PN   JP01066199-A.
XX
PD   13-MAR-1989.
XX
PF   04-SEP-1987;   87JP-00222735.
XX
PR   04-SEP-1987;   87JP-00222735.
XX
PA   (SUMU ) SUMITOMO SEIYAKU KK.
XX
DR   WPI; 1989-119491/16.
XX
PT   New insulin-like growth factor-I deriv. - prepd. by applying oxidn. to
PT   specific peptide, used as medical compsn. for promoting growth or
PT   repairing tissue.
XX
PS   Disclosure; Page 1; 8pp; Japanese.
XX
CC   The deriv. or salt is produced by oxidation of the AAP91502. IGF-I deriv.
CC   has growth promotion action only. It is used as a medical compsn. for
CC   promoting growth or repairing tissue. (Updated on 25-MAR-2003 to correct
CC   PA field.)
XX
SQ   Sequence 70 AA;

  Query Match             30.2%;  Score 26;  DB 1;  Length 70;
  Best Local Similarity   100.0%;  Pred. No. 1.9e-19;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61


RESULT 25
AAR10586
ID   AAR10586 standard; protein; 70 AA.
XX
AC   AAR10586;
XX
DT   09-JAN-2003  (revised)
DT   10-APR-1991  (first entry)
XX
DE   Modified mammalian somatomedin C containing metal-chelating sequence.
XX
KW   Bovine somatotopin C; milk production; dairy cows.
XX
OS   Bos taurus.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 8
FT                   /label= Mutated Ala to His
FT   Misc-difference 12
FT                   /label= Mutated Asp to His
XX
PN   EP409814-A.
XX
PD   23-JAN-1991.
XX
PF   16-JUL-1990;   90EP-00870109.
```

XX
PR 21-JUL-1989; 89US-00383778.
XX
PA (MONS) MONSANTO CO.
XX
PI Haymore BL, Bild GS, Krivi GG;
XX
DR WPI; 1991-024364/04.
XX
PT Variant proteins and polypeptide(s) - have enhanced binding affinity for
PT immobilised-metal affinity matrices.
XX
PS Claim 9; Page 23; 27pp; English.
XX
CC The two mutations introduce a metal-chelating sequence to the
CC stomatomedin, enhancing the proteins ability to bind to immobilised-
CC metal affinity matrix, useful in fractionating the variant proteins. DNA
CC encoding the sequence is also claimed but not given in the specification.
CC Wild type sequence was obtained from the International Journal of Peptide
CC and Protein Resources 36(4)356-61. (Updated on 09-JAN-2003 to add missing
CC OS field.)
XX
SQ Sequence 70 AA;

Query Match 30.2%; Score 26; DB 2; Length 70;
Best Local Similarity 100.0%; Pred. No. 1.9e-19;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy         11 RRAPQTGIVDECCFRSCDLRRLEMYC 36
              ||||||||||||||||||||||||||
Db         36 RRAPQTGIVDECCFRSCDLRRLEMYC 61
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